The Plant Cell, Vol. 6, i–iii, December 1995 © 1995 American Society of Plant Physiologists

Author Index

A

Aarts, Mark G. M., 2115
Abad, Andre R., 271
Ainsworth, Charles, 1583
Akkermans, Antoon D. L., 785
Allen, Gethyn J., 1473
Ammerer, Gustav, 759
Amor, Yehudit, 987
Angenent, Gerco C., 507, 1569, 1859
Antosiewicz, Danuta M., 1555
Aoyama, Takashi, 1773
Apel, Klaus, 161, 1933, 2081
Arisz, Steven A., 2197
Armstrong, Gregory, 2081
Asante-Owusu, Rachel N., 773
Atwal, Kamaljit, 499
Atzorn, Rainer, 1645
Avramova, Zoya, 1667
Ayliffe, Michael A., 1195

B

Bahadur, Sultan, 499
Balbo, Ilse, 1801
Ball, Steven, 1117
Banham, Alison H., 773
Barbier-Brygoo, Hélène, 2091
Bar-Peled, Maor, 667
Barrette, Terrence R., 2139
Bartley, Glenn E., 1027
Baulcombe, David C., 249
Bedinger, Patricia A., 2211
Beeckman, Tom, 1405
Bell, Peter R., 5, 664
Bellini, Catherine, 1405
Bennetzen, Jeffrey L., 1667
Benning, Christoph, 1801
Bensen, Robert J., 75
Ben-Yaacov, Sari, 1963
Bergey, Daniel R., 1893
Berry, James O., 677
Bisseling, Ton, 785, 869
Bleecker, Anthony B., 2023
Boerjan, Wout, 1405
Bögre, László, 759, 1847
Bohnert, Hans J., 1099, 1129
Bokros, Carol L., 2129
Bonnet, Dominique, 43
Bonnlander, Mark B., 225
Borisjuk, Ljudmilla, 1835
Borkhsenious, Olga N., 1459
Börner, Thomas, 649
Boronat, Albert, 517, 2163
Boutin, Jean-Pierre, 611
Boyes, Douglas C., 1283
Braam, Janet, 1555
Brandner, Johanna, 1545
Brash, Alan, 1645
Bressan, Ray A., 1529
Briggs, Steven P., 75
Briggs, Winslow R., 473
Brisson, Normand, 589, 1787
Broekaert, Willem F., 573
Brosch, Gerald, 1941
Browse, John, 17, 957
Bruenn, Jeremy A., 677
Buchanan-Wollaston, Vicky, 1583
Buchner, Peter, 1835
Bunker, Thomas W., 1319
Busscher, Marco, 507, 1569
Büttner, Michael, 2241

C

Caboche, Michel, 611, 1405
Callis, Judy, 845
Cammue, Bruno P. A., 573
Campos, Narciso, 2163
Cao, Xiang-Ling, 2187
Capellades, Montserrat, 407
Carabelli, Monica, 1773
Carlsson, Lena E., 391
Carmichael, Jeffrey S., 1975
Carmichael, Jeremy P., 85
Carpenter, Rosemary, 2001
Carré, Isabelle A., 2039
Carrick, Kevin M., 705
Carrington, James C., 549
Carroll, Anne M., 1221
Cashmore, Anthony R., 105
Casselton, Lorna A., 773
Cervera, Maria-Teresa, 1405
Chasan, Rebecca, 1, 141, 144, 235, 385, 495, 659, 1113, 1343, 1519, 1735, 1737, 1971
Chen, Jychian, 1703
Chen, Wei, 2241
Chen, Xuemei, 1295
Chen, Zutang, 1529
Chiang, Hui-Hwa, 195
Chory, Joanne, 1599
Chrispeels, Maarten J., 237
Chua, Nam-Hai, 1773, 2187
Chumley, Forrest G., 1221
Clarke, Adrienne E., 661
Coates, David, 499
Cocciolone, Suzy M., 1511
Coen, Enrico, 2001
Coen, Enrico S., 1501
Cole, Robert N., 1459
Coleman, Annette W., 1899
Collinge, Margaret A., 105
Colombo, Lucia, 1859
Conner, Anthony J., 599
Cook, Douglas, 43
Copsey, Lucy, 2001
Cornelissen, Marc, 347
Cornish, Edwina C., 1071
Coruzzi, Gloria, 887
Coschigano, Karen, 887
Cove, David J., 499
Crane, Virginia C., 75
Crawford, Nigel M., 859
Creelman, Robert A., 1319
Cronin, Stephen, 549
Crossley, Susan, 1583
Croteau, Rodney, 1015
Culligan, Kevin, 1599
Cuming, Andrew C., 499
Curie, Catherine, 373

D

Dabi, Tsegaye, 1681
Dahl, Marlis, 759, 1847
Das, Lekha, 287
da Silva Conceição, Alexandre, 667
Davies, H. Maelor, 359
Dean, Ralph A., 1869
de Carvalho Niebel, Fernanda, 347
Decq, André, 1117
Delarue, Marianne, 1405
DellaPenna, Dean, 2139
Delmer, Deborah P., 987
Delrue, Brigitte, 1117
De Luca, Vincenzo, 1787, 1811
Denecke, Jürgen, 391
Deng, Xing-Wang, 1749
Dennis, Elizabeth S., 213
Després, Charles, 589
de Vrije, Truus, 2197
DeWitt, Natalie D., 1713, 2053
Dewitte, Walter, 1405
Dhindsa, Rajinder S., 321
D'Hulst, Christophe, 1117
Ditta, Gary S., 1259
Dixon, Richard A., 1085, 1599
Dockx, Jan, 117
Dong, Chun-Hai, 1773
Donlin, Maureen J., 1989
Dons, Hans J. M., 507, 1569, 1859
Dooner, Hugo K., 309
Dörmann, Peter, 1801
Doyle, Sandra, 2001
Dreyer, Dale, 43

E

Eady, Colin, 65
Eggermont, Kristel, 573
Eimert, Klaus, 1703
Ek, Bo, 391
Ellis, Jeffrey G., 1195
English, James J., 1235
Enjuto, Montserrat, 517
Eyal, Yoram, 373

F

Facchini, Peter J., 1811
Farini, Donatella, 105
Farrall, Leonard, 1221
Fedoroff, Nina V., 735
Ferl, Robert J., 1923
Fernandez, Donna E., 1271
Finnegan, E. Jean, 1195
Fisher, Roxanne H., 2023
Fitzsimmons, Karen C., 1357
Flachmann, Ralf, 149
Flaishman, Moshe A., 183
Flanagan, John M., 1713
Fluhr, Robert, 203
Foley, Rhonda C., 2241
Folk, William, 1723
Franken, John, 507, 1569, 1859
Freeling, Michael, 1989
Frendo, Pierre, 347
Friedman, William E., 1975
Frigerio, Lorenzo, 667
Fry, Stephen C., 1555
Fu, Hongyong, 1369, 1387, 1395
Furbank, Robert T., 797

G

Gahrtz, Manfred, 1545
Gaiser, J. Christopher, 333
Galili, Gad, 899, 1963
Gasser, Charles S., 333
Gatenby, Anthony A., 809
Geigenberger, Peter, 259
Georgieva, Elena, 1667
Gillaspy, Glenda E., 2175
Giuliano, Giovanni, 105
Goff, Lynda J., 1899
Goodman, Howard M., 195
Goodrich, Justin, 1501
Göttgens, Berthold, 773
Gough, Simon, 1039

Gray, John C., 1421
Green, Pamela J., 237
Green, Rachel, 203
Grimes, Howard D., 1319
Gruissem, Wilhelm, 2175
Gubler, Frank, 1879
Guern, Jean, 2091
Guilfoyle, Tom J., 1611
Gutteridge, Steven, 809

H

Ha, Dang Thi Cam, 759, 1847
Hagen, Gretchen, 1611
Haldeman-Cahill, Ruth, 549
Hanley-Bowdoin, Linda, 705
Harms, Karsten, 1645
Harrison, Kate, 1235
Hart, Gerald W., 1459
Härtel, Heiko, 649
Hata, Shingo, 1143
Haughn, George W., 1485, 1501
Heberle-Bors, Erwin, 759, 1847
Heck, Gregory R., 1271
Heese-Peck, Antje, 1459
Heim, Ute, 1835
Helentjaris, Tim, 1307
Herrmann, Klaus M., 907
Heslop-Harrison, John S., 1823
Hetherington, Alistair M., 1207
Hirt, Heribert, 759, 1857
Ho, Tuan-Hua David, 295
Hoffmann, Paul, 649
Hoffmann-Benning, Susanne, 1801
Höglund, Anna-Stina, 391
Holm, Preben B., 487
Holton, Timothy A., 1071
Holtorf, Hauke, 1933
Howell, Mary, 43
Hsia, An-Ping, 2151
Hsieh, Ming-Hsiun, 887
Hubmann, Rainer, 1847
Hübschmann, Thomas, 649
Hueros, Gregorio, 747
Hugdahl, Jeffrey D., 2129
Hülskamp, Martin, 57
Hunt, Michelle, 2013
Hwang, Cheng-Shine, 183
Hwang, Inhwan, 195

I

Ingram, Gwyneth C., 1501
Inzé, Dirk, 1405
Irish, Vivian F., 1635

J

Jackson, Andrew O., 1157
Jacobsen, John V., 1879
Jacobsen-Lyon, Karin, 213
James, Douglas W., Jr., 309
James, Martha G., 417
Jansen, Ritsert C., 599
Jensen, Erik Østergaard, 213
Jensen, Richard G., 1099
Johal, Gurmukh S., 75
Jones, Aubrey, 359
Jones, David L., 1913
Jones, Jonathan D. G., 1235
Jørgensen, Jan-Elo, 213

K

Kalla, Roger, 1879
Kang, Seogchan, 1221
Kannangara, C. Gamini, 1039
Kao, Teh-hui, 661
Karchi, Hagai, 1963
Katsuhara, Maki, 1129
Kay, Steve A., 2039
Keddie, James S., 2175
Keijzer, Christian J., 2115
Keller, Janis, 309
Kelly, Alan J., 225
Kelly, Walter B., 1129
Kester, Anthea, 573
Kim, Minkyun, 1445
Kim, Soo Young, 1387, 1395
Kinal, Hai, 677
Kindle, Karen L., 1295
King, Joseph J., 2023
Kingsnorth, Crawford S., 773
Kinoshita, Toshinori, 1333
Klimczak, Leszek J., 105
Knight, Celia D., 499
Knight, Jacqueline S., 1421
Kochian, Leon V., 1913
Koetje, David S., 1319
Koetje, Emmo, 1859
Kolattukudy, Pappachan E., 183
Koltin, Yigal, 677
Kong, Qingzhong, 1625
Kouchi, Hiroshi, 1143
Kovaleva, Valentina, 573
Kühlbrandt, Werner, 149
Kühn, Hartmut, 1645
Kutchan, Toni M., 1059

L

Lam, Eric, 29, 1951
Lam, Hon-Ming, 887
Lamb, Chris, 1681
Lanfermeijer, Frank C., 1655
Larsen, Paul M., 431
Last, Robert L., 447, 921
Lawrence, Ellen B., 1357
Lawrence, Gregory J., 1195
Lawton, Kay, 2013
Lazarowitz, Sondra G., 1185
Lebedev, Nikolai, 2081
Lechner, Thomas, 1941
León, José, 1691
Lerchl, Jens, 259
Leu, Wei-Ming, 2187
Levin, Joshua Z., 529
Levine, Elaine B., 1357
Li, Hsou-min, 1599
Li, Jiayang, 447
Libessart, Nathalie, 1117
Lim, Eda, 309
Lindsey, Keith, 65
Lisch, Damon, 1989
Liscum, Emmanuel, 473
Liu, Zhan-Bin, 1611
Loidl, Peter, 1941
Lue, Wei-ling, 1703
Lumbreras, Victoria, 517

M

Mackenzie, Sally A., 271
Maddelein, Marie-Lise, 1117
Magrath, Ruth, 2001
Malhó, Rui, 1173
Mandel, M. Alejandra, 1763
Marcker, Kjeld A., 213
Marcotte, William R., Jr., 1511
Marín, Carles, 517
Márquez, Jesús, 2211
Martienssen, Robert, 287
Martin, Cathie, 971
Martin, Gregory B., 1529
Matton, Daniel P., 589
Matzke, Marjori A., 1522
Maule, Andrew J., 561
McAinsh, Martin R., 1207
McCarty, Donald R., 1511
McClure, Bruce A., 661
McCormick, Sheila, 373
McGarvey, Douglas J., 1015
McLean, B. Gail, 2101
McNellis, Timothy W., 1749
Meeks-Wagner, D. Ry, 225, 1347
Meeley, Robert B., 75
Mehrtens, Brian J., 271
Mellor, E. Jane C., 773
Melo-Oliveira, Rosana, 887
Merchant, Sabeeha, 623
Meskiene, Irute, 759, 1847
Meyer, Christian, 611
Meyerowitz, Elliot M., 529, 1249
Michalowski, Christine B., 1129
Miron, Daphna, 1963
Mitchell, Thomas K., 1869
Mittler, Ron, 29, 1951
Mlynárová, Ludmila, 599
Mogensen, H. Lloyd, 487
Monroy, Antonio F., 321
Morejohn, Louis C., 2129
Morelli, Giorgio, 1773
Mouille, Gregory, 1117
Mullet, John E., 1319, 1445
Munnik, Teun, 2197
Murray, James A. H., 85
Musgrave, Alan, 2197
Myers, Alan M., 417
Mylona, Panagiota, 869

N

Nagar, Steven, 705
Nap, Jan-Peter, 599
Napier, Johnathan A., 945
Nasrallah, June B., 237, 1283
Navarre, Duroy A., 463
Nelson, Donald E., 1099
Neuenschwander, Urs, 2013
Newbigin, Ed, 661
Ngai, Nora, 887
Nichols, Karl W., 1271
Nikolau, Basil, J., 2151
Nishimura, Mitsuo, 1333
Nony, Emmanuel, 43
Norris, Susan R., 2139
Nussaume, Laurent, 611

O

Oda, Kenji, 2175
Oh, Jong-Won, 1625
Ohlrogge, John, 957
Ohme-Takagi, Masaru, 173
Oldroyd, Giles E. D., 1537
Oliveira, Igor, 887
Oono, Kiyoharu, 1522
Osborn, Rupert W., 573

P

Pais, M. Salomé, 1173
Paiva, Nancy L., 1085
Palmgren, Michael G., 1655
Palva, E. Tapio, 391
Park, Chung-Mo, 677
Park, William D., 1369, 1387, 1395
Parker, John, 1583
Parks, Brian M., 1433
Pawlowski, Katharina, 785, 869
Peacock, W. James, 213
Pedersen, Thomas J., 705
Pei, Zhen-Ming, 833
Peña-Cortés, Hugo, 1645
Pereira, Andy, 2115

Perry, Sharyn E., 1271
Peters, Janny L., 131
Phillips, Ronald L., 1522
Pickett, F. Bryan, 1347
Pirck, Manfred, 759
Plooy, Ingrid, 309
Plumley, F. Gerald, 689
Polisensky, Diana H., 1555
Pruitt, Robert E., 57
Puigdomènech, Pere, 407
Purugganan, Mary M., 1555

Q

Quaedvlieg, Nicolette, 117
Quail, Peter H., 1433
Quatrano, Ralph S., 499, 1511
Quinn, Jeanette M., 623

R

Radwanski, Elaine R., 921
Raikhel, Natasha V., 573, 667, 1459
Ralston, Ed, 309
Ransom, Richard, 1941
Raskin, Ilya, 1691
Read, Nick D., 1173
Read, Steve M., 661
Rees, Sarah B., 573
Regenberg, Birgitte, 1655
Reinbothe, Christiane, 161, 1933
Reinbothe, Steffen, 161, 1933
Ribeiro, Ana, 785
Rigau, Joan, 407
Roberts, James K., 1879
Robertson, Dominique, 705
Robertson, Donald S., 417
Robinson-Beers, Kay, 333
Rommens, Caius M. T., 249, 1537
Rook, Fred, 117
Rose, Alan B., 447
Rosenkrans, Leonard, 1511
Rounsley, Steven D., 721, 1259
Ruberti, Ida, 1773
Rubinstein, Amy L., 2211
Runge, Sönke, 161
Running, Mark P., 1249
Ryals, John, 2013
Ryan, Clarence A., 1893

S

Sack, Fred D., 2227
Salamini, Francesco, 747
Salmeron, John M., 249, 1537
Sanderfoot, Anton A., 1185
Sanders, Dale, 1473
SanMiguel, Phillip, 1667
Sauer, Norbert, 1545
Savidge, Beth, 721
Schaad, Mary C., 549
Schaller, Andreas, 1893
Schmidt, Gregory W., 689
Schmidt, Renate, 447
Schnable, Patrick S., 75, 2151
Schneitz, Kay, 57
Scholthof, Herman B., 1157
Scholthof, Karen-Beth G., 1157
Schroeder, Julian I., 833
Schultz, Carolyn, 887
Schulz, Alexander, 1545
Schwarzacher, Trude, 1823
Scolnik, Pablo A., 1027
Sederoff, Ron, 1001
Sehgal, Amita, 499
Sekine, Masami, 1143
Sessa, Giovanna, 1773
Shah, Dilip M., 1357
Shah, Zahid H., 85
Shaner, Dale L., 935
Shanklin, John, 1713
Shen, Qingxi, 295
Shestakov, Sergey V., 649
Shewry, Peter R., 945
Shimazaki, Ken-ichiro, 1333
Shinshi, Hideaki, 173, 639
Short, Timothy W., 1433
Shortt, Barry J., 1357
Shulaev, Vladimir, 29, 1691
Sieburth, Leslie E., 1249
Siedow, James N., 821
Silverthorne, Jane, 131
Simon, Anne E., 1625
Simon, Rüdiger, 1501
Singh, Bijay K., 935
Singh, Karam B., 2241
Sinjorgo, Karin M. C., 391
Smeekens, Sjef, 117
Smith, Alison M., 971
Smith, David L., 735
Snustad, D. Peter, 2187
Soni, Rajeev, 85
Sonnewald, Uwe, 259
Stadler, Ruth, 1545
Staskawicz, Brian J., 249, 1537
Steiner, Henry-York, 2013
Stephenson, Lowry C., 1319
Stern, David B., 1295
Stiekema, Willem J., 599, 2115
Stimart, Dennis P., 2023
Stitt, Mark, 259
Stockley, Peter G., 499
Suárez-Cervera, María, 2211
Subramaniam, Rajagopal, 589
Sussman, Michael R., 2053
Suzuki, Kaoru, 639
Sweigard, James A., 1221
Swoboda, Ines, 759, 1857

T

Tatham, Arthur S., 945
Taylor, Jane E., 1207
Taylor, William C., 797
Terras, Franky R. G., 573
Thangavelu, Madan, 1583
Thilmony, Roger L., 1529
Thomas, Carole L., 561
Thomine, Sébastien, 2091
Thompson, Richard D., 747
Thompson, Sara A. J., 773
Tjaden, Gabrielle, 887
Torrekens, Sophie, 573
Torres, Miguel Angel, 407
Tossberg, John T., 75
Trewavas, Anthony J., 1173
Twell, David, 65

U

Uknes, Scott, 2013
Ulmasov, Barbara, 1723
Ulmasov, Tim, 1611
Umbach, Ann L., 821

V

Valent, Barbara, 1221
van Cleve, Barbara, 161, 2081
VandenBosch, Kathryn, 43
Van den Koornhuyse, N., 1117
Vanderleyden, Jozef, 573
van Dijken, A., 1569
van Kammen, Ab, 785
Van Leuven, Fred, 573
Van Montagu, Marc, 347, 1405
Van Onckelen, Harry, 1405
van Tunen, Arjen J., 507, 1569, 1859
van Went, Jacques, 1569, 1859
van Zeijl, Mieke J., 391
Varner, Joseph E., 795
Varotto, Serena, 747
Vasil, Indra K., 1511
Vasil, Vimla, 1511
Vega-Palas, Miguel A., 1923
Verchot, Jeanmarie, 549
Vershinin, Alexander V., 1823
Vidal, Sabina, 391
Vignols, Florence, 407
Villalba, José Manuel, 1655
Vincent, Coral, 2001
Vincentz, Michel, 611
Voelker, Toni A., 359
von Wettstein, Diter, 1039

W

Waigmann, Elisabeth, 2069
Walker, John C., 105
Wallace, John C., 499
Walton, Jonathan D., 1941
Wang, Shue-Mei, 1703
Ward, John M., 833
Wasternack, Claus, 1645
Webb, Alex A. R., 1207
Weber, Hans, 1835
Weigel, Detlef, 388
Weisbeek, Peter, 117
Weymann, Kris, 2013
Whetten, Ross, 1001
Wilde, Annegret, 649
Wilkinson, Mark D., 1485, 1501
Willmitzer, Lothar, 1645
Wilson, Theresa J., 2187
Winkler, Rodney G., 1307
Wobus, Ulrich, 1835
Wolniak, Stephen M., 431
Wolpert, Thomas J., 463
Wu, Gusui, 1357
Wu, Jingrui, 17
Wu, Yan, 1773

X

Xu, Wei, 1555
Xu, Xiaojie, 2151
Xu, Yong, 1433

Y

Yamada, Shigehiro, 1129
Yamamoto, Yuri T., 1635
Yang, Ming, 2227
Yanofsky, Martin F., 721, 1259, 1763
Yao, Kening, 1787

Z

Zambryski, Patricia, 2069
Zambryski, Patricia C., 2101
Zhang, Bei, 2241
Zhang, Lei, 2151
Zhao, Jianmin, 447
Zhu, Qun, 1681
Zimmermann, Sabine, 2091
Zupan, John, 2101

The Plant Cell, Vol. 6, iv–xxiv, December 1995 © 1995 American Society of Plant Physiologists

Subject Index

A

Abscisic acid
R. Chasan: ASPP Meeting: Germinating Ideas in Portland (Meeting Report), 144–148
C. D. Knight, A. Sehgal, K. Atwal, J. C. Wallace, D. J. Cove, D. Coates, R. S. Quatrano, S. Bahadur, P. G. Stockley, and A. C. Cuming: Molecular Responses to Abscisic Acid and Stress Are Conserved between Moss and Cereals, 499–506
Q. Shen and T.-H. D. Ho: Functional Dissection of an Abscisic Acid (ABA)–Inducible Gene Reveals Two Independent ABA-Responsive Complexes Each Containing a G-Box and a Novel *cis*-Acting Element, 295–307
V. Vasil, W. R. Marcotte, Jr., L. Rosenkrans, S. M. Cocciolone, I. K. Vasil, R. S. Quatrano, and D. R. McCarty: Overlap of Viviparous1 (VP1) and Abscisic Acid Response Elements in the *Em* Promoter: G-Box Elements Are Sufficient but Not Necessary for VP1 Transactivation, 1511–1518
J. M. Ward, Z.-M. Pei, and J. I. Schroeder: Roles of Ion Channels in Initiation of Signal Transduction in Higher Plants, 833–844

***N*-Acetylglucosamine**
A. Heese-Peck, R. N. Cole, O. N. Borkhsenious, G. W. Hart, and N. V. Raikhel: Plant Nuclear Pore Complex Proteins Are Modified by Novel Oligosaccharides with Terminal *N*-Acetylglucosamine, 1459–1471

Actinorhizal root nodules
A. Ribeiro, A. D. L. Akkermans, A. van Kammen, T. Bisseling, and K. Pawlowski: A Nodule-Specific Gene Encoding a Subtilisin-Like Protease Is Expressed in Early Stages of Actinorhizal Nodule Development, 785–794

Activator
D. W. James, Jr., E. Lim, J. Keller, I. Plooy, E. Ralston, and H. K. Dooner: Directed Tagging of the Arabidopsis *FATTY ACID ELONGATION1* (*FAE1*) Gene with the Maize Transposon *Activator*, 309–319

Acyl–acyl carrier protein thioesterases
R. Chasan: Engineering Fatty Acids—The Long and Short of It (In This Issue), 235–237
A. Jones, H. M. Davies, and T. A. Voelker: Palmitoyl–Acyl Carrier Protein (ACP) Thioesterase and the Evolutionary Origin of Plant Acyl-ACP Thioesterases, 359–371

aERD2
M. Bar-Peled, A. da Silva Conceição, L. Frigerio, and N. V. Raikhel: Expression and Regulation of *aERD2*, a Gene Encoding the KDEL Receptor Homolog in Plants, and Other Genes Encoding Proteins Involved in ER–Golgi Vesicular Trafficking, 667–676

AGAMOUS
L. E. Sieburth, M. P. Running, and E. M. Meyerowitz: Genetic Separation of Third and Fourth Whorl Functions of *AGAMOUS*, 1249–1258

***AGAMOUS*-Like genes**
G. R. Heck, S. E. Perry, K. W. Nichols, and D. E. Fernandez: AGL15, a MADS Domain Protein Expressed in Developing Embryos, 1271–1282
M. A. Mandel and M. F. Yanofsky: The Arabidopsis *AGL8* MADS Box Gene Is Expressed in Inflorescence Meristems and Is Negatively Regulated by *APETALA1*, 1763–1771
S. D. Rounsley, G. S. Ditta, and M. F. Yanofsky: Diverse Roles for MADS Box Genes in Arabidopsis Development, 1259–1269
B. Savidge, S. D. Rounsley, and M. F. Yanofsky: Temporal Relationship between the Transcription of Two Arabidopsis MADS Box Genes and the Floral Organ Identity Genes, 721–733

Agapanthus umbellatus
R. Malhó, N. D. Read, A. J. Trewavas, and M. S. Pais: Calcium Channel Activity during Pollen Tube Growth and Reorientation, 1173–1184

Albumins
P. R. Shewry, J. A. Napier, and A. S. Tatham: Seed Storage Proteins: Structures and Biosynthesis, 945–956

***alcohol dehydrogenase* gene**
M. A. Vega-Palas and R. J. Ferl: The Arabidopsis *Adh* Gene Exhibits Diverse Nucleosome Arrangements within a Small DNase I-Sensitive Domain, 1923–1932

***alcohol dehydrogenase1* gene**
Z. Avramova, P. SanMiguel, E. Georgieva, and J. L. Bennetzen: Matrix Attachment Regions and Transcribed Sequences within a Long Chromosomal Continuum Containing Maize *Adh1*, 1667–1680

Aleurone cells
F. Gubler, R. Kalla, J. K. Roberts, and J. V. Jacobsen: Gibberellin-Regulated Expression of a *myb* Gene in Barley Aleurone Cells: Evidence for Myb Transactivation of a High-pI α-Amylase Gene Promoter, 1879–1891

Alfalfa
M. Dahl, I. Meskiene, L. Bögre, D. T. C. Ha, I. Swoboda, R. Hubmann, H. Hirt, and E. Heberle-Bors: The D-Type Alfalfa Cyclin Gene *cycMs4* Complements G_1 Cyclin–Deficient Yeast and Is Induced in the G_1 Phase of the Cell Cycle, 1847–1857
I. Meskiene, L. Bögre, M. Dahl, M. Pirck, D. T. C. Ha, I. Swoboda, E. Heberle-Bors, G. Ammerer, and H. Hirt: *cycMs3*, a Novel B-Type Alfalfa Cyclin Gene, Is Induced in the G_0-to-G_1 Transition of the Cell Cycle, 759–771
A. F. Monroy and R. S. Dhindsa: Low-Temperature Signal Transduction: Induction of Cold Acclimation–Specific Genes of Alfalfa by Calcium at 25°C, 321–331

Alkaloid biosynthesis
P. J. Facchini and V. De Luca: Phloem-Specific Expression of Tyrosine/Dopa Decarboxylase Genes and the Biosynthesis of Isoquinoline Alkaloids in Opium Poppy, 1811–1821
T. M. Kutchan: Alkaloid Biosynthesis—The Basis for Metabolic Engineering of Medicinal Plants, 1059–1070

Allene oxide synthase
K. Harms, R. Atzorn, A. Brash, H. Kühn, C. Wasternack, L. Willmitzer, and H. Peña-Cortés: Expression of a Flax Allene Oxide Synthase cDNA Leads to Increased Endogenous Jasmonic Acid (JA) Levels in Transgenic Potato Plants but Not to a Corresponding Activation of JA-Responding Genes, 1645–1654

Alnus glutinosa
A. Ribeiro, A. D. L. Akkermans, A. van Kammen, T. Bisseling, and K. Pawlowski: A Nodule-Specific Gene Encoding a Subtilisin-Like Protease Is Expressed in Early Stages of Actinorhizal Nodule Development, 785–794

Aluminum
D. L. Jones and L. V. Kochian: Aluminum Inhibition of the Inositol 1,4,5-Trisphosphate Signal Transduction Pathway in Wheat Roots: A Role in Aluminum Toxicity? 1913–1922

Amide amino acid biosynthesis
H.-M. Lam, K. Coschigano, C. Schultz, R. Melo-Oliveira, G. Tjaden, I. Oliveira, N. Ngai, M.-H. Hsieh, and G. Coruzzi: Use of Arabidopsis Mutants and Genes To Study Amide Amino Acid Biosynthesis, 887–898

Aminopeptidases
A. Schaller, D. R. Bergey, and C. A. Ryan: Induction of Wound Response Genes in Tomato Leaves by Bestatin, an Inhibitor of Aminopeptidases, 1893–1898

α-Amylase
F. Gubler, R. Kalla, J. K. Roberts, and J. V. Jacobsen: Gibberellin-Regulated Expression of a *myb* Gene in Barley Aleurone Cells: Evidence for Myb Transactivation of a High-pI α-Amylase Gene Promoter, 1879–1891

Amyloplasts
C. Martin and A. M. Smith: Starch Biosynthesis, 971–985

Angiosperm evolution
P. R. Bell: Incompatibility in Flowering Plants: Adaptation of an Ancient Response (Review Article), 5–16
P. R. Bell: Reply (Letters To The Editor), 664–665
S. M. Read, E. Newbigin, A. E. Clarke, B. A. McClure, and T.-h. Kao: Disputed Ancestry: Comments on a Model for the Origin of Incompatibility in Flowering Plants (Letters To The Editor), 661–664

Anion channel
S. Thomine, S. Zimmermann, J. Guern, and H. Barbier-Brygoo: ATP-Dependent Regulation of an Anion Channel at the Plasma Membrane of Protoplasts from Epidermal Cells of Arabidopsis Hypocotyls, 2091–2100
Antenna complexes
R. Flachmann and W. Kühlbrandt: Accumulation of Plant Antenna Complexes Is Regulated by Post-Transcriptional Mechanisms in Tobacco, 149–160
Anther development
D. C. Boyes and J. B. Nasrallah: An Anther-Specific Gene Encoded by an *S* Locus Haplotype of *Brassica* Produces Complementary and Differentially Regulated Transcripts, 1283–1294
***Anther ear1* gene**
R. J. Bensen, G. S. Johal, V. C. Crane, J. T. Tossberg, P. S. Schnable, R. B. Meeley, and S. P. Briggs: Cloning and Characterization of the Maize *An1* Gene, 75–84
Anthocyanin biosynthesis
T. A. Holton and E. C. Cornish: Genetics and Biochemistry of Anthocyanin Biosynthesis, 1071–1083
***anthocyanin1* gene**
X. Xu, A.-P. Hsia, L. Zhang, B. J. Nikolau, and P. S. Schnable: Meiotic Recombination Break Points Resolve at High Rates at the 5′ End of a Maize Coding Sequence, 2151–2161
Antifungal proteins
F. R. G. Terras, K. Eggermont, V. Kovaleva, N. V. Raikhel, R. W. Osborn, A. Kester, S. B. Rees, S. Torrekens, F. Van Leuven, J. Vanderleyden, B. P. A. Cammue, and W. F. Broekaert: Small Cysteine-Rich Antifungal Proteins from Radish: Their Role in Host Defense, 573–588
Antirrhinum
R. Carpenter, L. Copsey, C. Vincent, S. Doyle, R. Magrath, and E. Coen: Control of Flower Development and Phyllotaxy by Meristem Identity Genes in Antirrhinum, 2001–2011
G. C. Ingram, J. Goodrich, M. D. Wilkinson, R. Simon, G. W. Haughn, and E. S. Coen: Parallels between *UNUSUAL FLORAL ORGANS* and *FIMBRIATA*, Genes Controlling Flower Development in Arabidopsis and Antirrhinum, 1501–1510
V. F. Irish and Y. T. Yamamoto: Conservation of Floral Homeotic Gene Function between Arabidopsis and Antirrhinum, 1635–1644
APETALA1
M. A. Mandel and M. F. Yanofsky: The Arabidopsis *AGL8* MADS Box Gene Is Expressed in Inflorescence Meristems and Is Negatively Regulated by *APETALA1*, 1763–1771
APETALA2
D. Weigel: The APETALA2 Domain Is Related to a Novel Type of DNA Binding Domain (Letter To The Editor), 388–389
APETALA3
V. F. Irish and Y. T. Yamamoto: Conservation of Floral Homeotic Gene Function between Arabidopsis and Antirrhinum, 1635–1644
Appressorium formation
C.-S. Hwang, M. A. Flaishman, and P. E. Kolattukudy: Cloning of a Gene Expressed during Appressorium Formation by *Colletotrichum gloeosporioides* and a Marked Decrease in Virulence by Disruption of This Gene, 183–193
T. K. Mitchell and R. A. Dean: The cAMP-Dependent Protein Kinase Catalytic Subunit Is Required for Appressorium Formation and Pathogenesis by the Rice Blast Pathogen *Magnaporthe grisea*, 1869–1878
Aquaporins
S. Yamada, M. Katsuhara, W. B. Kelly, C. B. Michalowski, and H. J. Bohnert: A Family of Transcripts Encoding Water Channel Proteins: Tissue-Specific Expression in the Common Ice Plant, 1129–1142
Arabidopsis
M. G. M. Aarts, C. J. Keijzer, W. J. Stiekema, and A. Pereira: Molecular Characterization of the *CER1* Gene of Arabidopsis Involved in Epicuticular Wax Biosynthesis and Pollen Fertility, 2115–2127
T. Aoyama, C.-H. Dong, Y. Wu, M. Carabelli, G. Sessa, I. Ruberti, G. Morelli, and N.-H. Chua: Ectopic Expression of the Arabidopsis Transcriptional Activator Athb-1 Alters Leaf Cell Fate in Tobacco, 1773–1785
M. Bar-Peled, A. da Silva Conceição, L. Frigerio, and N. V. Raikhel: Expression and Regulation of *aERD2*, a Gene Encoding the KDEL Receptor Homolog in Plants, and Other Genes Encoding Proteins Involved in ER–Golgi Vesicular Trafficking, 667–676
W. Boerjan, M.-T. Cervera, M. Delarue, T. Beeckman, W. Dewitte, C. Bellini, M. Caboche, H. Van Onckelen, M. Van Montagu, and D. Inzé: *superroot*, a Recessive Mutation in Arabidopsis, Confers Auxin Overproduction, 1405–1419
N. Campos and A. Boronat: Targeting and Topology in the Membrane of Plant 3-Hydroxy-3-Methylglutaryl Coenzyme A Reductase, 2163–2174
I. A. Carré and S. A. Kay: Multiple DNA–Protein Complexes at a Circadian-Regulated Promoter Element, 2039–2051
R. Chasan: Ovule Origins (In This Issue), 1735–1737
R. Chasan: Arabidopsis in Madison: Genes and Phenotypes Spread like Weeds (Meeting Report), 1737–1748
H.-H. Chiang, I. Hwang, and H. M. Goodman: Isolation of the Arabidopsis *GA4* Locus, 195–201
N. D. DeWitt and M. R. Sussman: Immunocytological Localization of an Epitope-Tagged Plasma Membrane Proton Pump (H^+-ATPase) in Phloem Companion Cells, 2053–2067
P. Dörmann, S. Hoffmann-Benning, I. Balbo, and C. Benning: Isolation and Characterization of an Arabidopsis Mutant Deficient in the Thylakoid Lipid Digalactosyl Diacylglycerol, 1801–1810
K. Eimert, S.-M. Wang, W.-I. Lue, and J. Chen: Monogenic Recessive Mutations Causing Both Late Floral Initiation and Excess Starch Accumulation in Arabidopsis, 1703–1712
M. Enjuto, V. Lumbreras, C. Marín, and A. Boronat: Expression of the Arabidopsis *HMG2* Gene, Encoding 3-Hydroxy-3-Methylglutaryl Coenzyme A Reductase, Is Restricted to Meristematic and Floral Tissues, 517–527
J. C. Gaiser, K. Robinson-Beers, and C. S. Gasser: The Arabidopsis *SUPERMAN* Gene Mediates Asymmetric Growth of the Outer Integument of Ovules, 333–345
G. R. Heck, S. E. Perry, K. W. Nichols, and D. E. Fernandez: AGL15, a MADS Domain Protein Expressed in Developing Embryos, 1271–1282
M. Hülskamp, K. Schneitz, and R. E. Pruitt: Genetic Evidence for a Long-Range Activity That Directs Pollen Tube Guidance in Arabidopsis, 57–64
G. C. Ingram, J. Goodrich, M. D. Wilkinson, R. Simon, G. W. Haughn, and E. S. Coen: Parallels between *UNUSUAL FLORAL ORGANS* and *FIMBRIATA*, Genes Controlling Flower Development in Arabidopsis and Antirrhinum, 1501–1510
V. F. Irish and Y. T. Yamamoto: Conservation of Floral Homeotic Gene Function between Arabidopsis and Antirrhinum, 1635–1644
D. W. James, Jr., E. Lim, J. Keller, I. Plooy, E. Ralston, and H. K. Dooner: Directed Tagging of the Arabidopsis *FATTY ACID ELONGATION1* (*FAE1*) Gene with the Maize Transposon *Activator*, 309–319
J. J. King, D. P. Stimart, R. H. Fisher, and A. B. Bleecker: A Mutation Altering Auxin Homeostasis and Plant Morphology in Arabidopsis, 2023–2037
L. J. Klimczak, M. A. Collinge, D. Farini, G. Giuliano, J. C. Walker, and A. R. Cashmore: Reconstitution of Arabidopsis Casein Kinase II from Recombinant Subunits and Phosphorylation of Transcription Factor GBF1, 105–115
Q. Kong, J.-W. Oh, and A. E. Simon: Symptom Attenuation by a Normally Virulent Satellite RNA of Turnip Crinkle Virus Is Associated with the Coat Protein Open Reading Frame, 1625–1634
H.-M. Lam, K. Coschigano, C. Schultz, R. Melo-Oliveira, G. Tjaden, I. Oliveira, N. Ngai, M.-H. Hsieh, and G. Coruzzi: Use of Arabidopsis Mutants and Genes To Study Amide Amino Acid Biosynthesis, 887–898
G. J. Lawrence, E. J. Finnegan, M. A. Ayliffe, and J. G. Ellis: The *L6* Gene for Flax Rust Resistance Is Related to the Arabidopsis Bacterial Resistance Gene *RPS2* and the Tobacco Viral Resistance Gene *N*, 1195–1206
N. Lebedev, B. van Cleve, G. Armstrong, and K. Apel: Chlorophyll Synthesis in a Deetiolated (det340) Mutant of Arabidopsis without NADPH-Protochlorophyllide (PChlide) Oxidoreductase (POR) A and Photoactive PChlide-F655, 2081–2090

W.-M. Leu, X.-L. Cao, T. J. Wilson, D. P. Snustad, and N.-H. Chua: Phytochrome A and Phytochrome B Mediate the Hypocotyl-Specific Downregulation of *TUB1* by Light in Arabidopsis, 2187–2196

J. Z. Levin and E. M. Meyerowitz: *UFO*: An Arabidopsis Gene Involved in Both Floral Meristem and Floral Organ Development, 529–548

H.-m. Li, K. Culligan, R. A. Dixon, and J. Chory: *CUE1*: A Mesophyll Cell-Specific Positive Regulator of Light-Controlled Gene Expression in Arabidopsis, 1599–1610

J. Li, J. Zhao, A. B. Rose, R. Schmidt, and R. L. Last: Arabidopsis Phosphoribosylanthranilate Isomerase: Molecular Genetic Analysis of Triplicate Tryptophan Pathway Genes, 447–461

E. Liscum and W. R. Briggs: Mutations in the *NPH1* Locus of Arabidopsis Disrupt the Perception of Phototropic Stimuli, 473–485

M. A. Mandel and M. F. Yanofsky: The Arabidopsis *AGL8* MADS Box Gene Is Expressed in Inflorescence Meristems and Is Negatively Regulated by *APETALA1*, 1763–1771

S. R. Norris, T. R. Barrette, and D. DellaPenna: Genetic Dissection of Carotenoid Synthesis in Arabidopsis Defines Plastoquinone as an Essential Component of Phytoene Desaturation, 2139–2149

N. Quaedvlieg, J. Dockx, F. Rook, P. Weisbeek, and S. Smeekens: The Homeobox Gene *ATH1* of Arabidopsis Is Derepressed in the Photomorphogenic Mutants *cop1* and *det1*, 117–129

E. R. Radwanski and R. L. Last: Tryptophan Biosynthesis and Metabolism: Biochemical and Molecular Genetics, 921–934

B. Regenberg, J. M. Villalba, F. C. Lanfermeijer, and M. G. Palmgren: C-Terminal Deletion Analysis of Plant Plasma Membrane H^+-ATPase: Yeast as a Model System for Solute Transport across the Plant Plasma Membrane, 1655–1666

S. D. Rounsley, G. S. Ditta, and M. F. Yanofsky: Diverse Roles for MADS Box Genes in Arabidopsis Development, 1259–1269

B. Savidge, S. D. Rounsley, and M. F. Yanofsky: Temporal Relationship between the Transcription of Two Arabidopsis MADS Box Genes and the Floral Organ Identity Genes, 721–733

J. Shanklin, N. D. DeWitt, and J. M. Flanagan: The Stroma of Higher Plant Plastids Contain ClpP and ClpC, Functional Homologs of *Escherichia coli* ClpP and ClpA: An Archetypal Two-Component ATP-Dependent Protease, 1713–1722

L. E. Sieburth, M. P. Running, and E. M. Meyerowitz: Genetic Separation of Third and Fourth Whorl Functions of *AGAMOUS*, 1249–1258

D. L. Smith and N. V. Fedoroff: *LRP1*, a Gene Expressed in Lateral and Adventitious Root Primordia of Arabidopsis, 735–745

R. Soni, J. P. Carmichael, Z. H. Shah, and J. A. H. Murray: A Family of Cyclin D Homologs from Plants Differentially Controlled by Growth Regulators and Containing the Conserved Retinoblastoma Protein Interaction Motif, 85–103

S. Thomine, S. Zimmermann, J. Guern, and H. Barbier-Brygoo: ATP-Dependent Regulation of an Anion Channel at the Plasma Membrane of Protoplasts from Epidermal Cells of Arabidopsis Hypocotyls, 2091–2100

B. Ulmasov and W. Folk: Analysis of the Role of 5′ and 3′ Flanking Sequence Elements upon in Vivo Expression of the Plant $tRNA^{Trp}$ genes, 1723–1734

M. A. Vega-Palas and R. J. Ferl: The Arabidopsis *Adh* Gene Exhibits Diverse Nucleosome Arrangements within a Small DNase I–Sensitive Domain, 1923–1932

A. V. Vershinin, T. Schwarzacher, and J. S. Heslop-Harrison: The Large-Scale Genomic Organization of Repetitive DNA Families at the Telomeres of Rye Chromosomes, 1823–1833

K. Weymann, M. Hunt, S. Uknes, U. Neuenschwander, K. Lawton, H.-Y. Steiner, and J. Ryals: Suppression and Restoration of Lesion Formation in Arabidopsis *lsd* Mutants, 2013–2022

M. D. Wilkinson and G. W. Haughn: *UNUSUAL FLORAL ORGANS* Controls Meristem Identity and Organ Primordia Fate in Arabidopsis, 1485–1499

J. Wu and J. Browse: Elevated Levels of High-Melting-Point Phosphatidylglycerols Do Not Induce Chilling Sensitivity in an Arabidopsis Mutant, 17–27

W. Xu, M. M. Purugganan, D. H. Polisensky, D. M. Antosiewicz, S. C. Fry, and J. Braam: Arabidopsis *TCH4*, Regulated by Hormones and the Environment, Encodes a Xyloglucan Endotransglycosylase, 1555–1567

Y. Xu, B. M. Parks, T. W. Short, and P. H. Quail: Missense Mutations Define a Restricted Segment in the C-Terminal Domain of Phytochrome A Critical to Its Regulatory Activity, 1433–1443

M. Yang and F. D. Sack: The *too many mouths* and *four lips* Mutations Affect Stomatal Production in Arabidopsis, 2227–2239

B. Zhang, W. Chen, R. C. Foley, M. Büttner, and K. B. Singh: Interactions between Distinct Types of DNA Binding Proteins Enhance Binding to *ocs* Element Promoter Sequences, 2241–2252

Aromatic amino acid biosynthesis

K. M. Herrmann: The Shikimate Pathway: Early Steps in the Biosynthesis of Aromatic Compounds, 907–919

E. R. Radwanski and R. L. Last: Tryptophan Biosynthesis and Metabolism: Biochemical and Molecular Genetics, 921–934

aSAR1

M. Bar-Peled, A. da Silva Conceição, L. Frigerio, and N. V. Raikhel: Expression and Regulation of *aERD2*, a Gene Encoding the KDEL Receptor Homolog in Plants, and Other Genes Encoding Proteins Involved in ER–Golgi Vesicular Trafficking, 667–676

Aspartate family pathway

G. Galili: Regulation of Lysine and Threonine Synthesis, 899–906

Athb-1

T. Aoyama, C.-H. Dong, Y. Wu, M. Carabelli, G. Sessa, I. Ruberti, G. Morelli, and N.-H. Chua: Ectopic Expression of the Arabidopsis Transcriptional Activator Athb-1 Alters Leaf Cell Fate in Tobacco, 1773–1785

ATP

S. Thomine, S. Zimmermann, J. Guern, and H. Barbier-Brygoo: ATP-Dependent Regulation of an Anion Channel at the Plasma Membrane of Protoplasts from Epidermal Cells of Arabidopsis Hypocotyls, 2091–2100

Auxin

W. Boerjan, M.-T. Cervera, M. Delarue, T. Beeckman, W. Dewitte, C. Bellini, M. Caboche, H. Van Onckelen, M. Van Montagu, and D. Inzé: *superroot*, a Recessive Mutation in Arabidopsis, Confers Auxin Overproduction, 1405–1419

R. Chasan: ASPP Meeting: Germinating Ideas in Portland (Meeting Report), 144–148

J. J. King, D. P. Stimart, R. H. Fisher, and A. B. Bleecker: A Mutation Altering Auxin Homeostasis and Plant Morphology in Arabidopsis, 2023–2037

T. Ulmasov, Z.-B. Liu, G. Hagen, and T. J. Guilfoyle: Composite Structure of Auxin Response Elements, 1611–1623

Auxin response elements

T. Ulmasov, Z.-B. Liu, G. Hagen, and T. J. Guilfoyle: Composite Structure of Auxin Response Elements, 1611–1623

Avirulence genes

J. A. Sweigard, A. M. Carroll, S. Kang, L. Farrall, F. G. Chumley, and B. Valent: Identification, Cloning, and Characterization of *PWL2*, a Gene for Host Species Specificity in the Rice Blast Fungus, 1221–1233

***avrPto* gene**

C. M. T. Rommens, J. M. Salmeron, G. E. D. Oldroyd, and B. J. Staskawicz: Intergeneric Transfer and Functional Expression of the Tomato Disease Resistance Gene *Pto*, 1537–1544

R. L. Thilmony, Z. Chen, R. A. Bressan, and G. B. Martin: Expression of the Tomato *Pto* Gene in Tobacco Enhances Resistance to *Pseudomonas syringae* pv *tabaci* Expressing *avrPto*, 1529–1536

B

Barley

F. Gubler, R. Kalla, J. K. Roberts, and J. V. Jacobsen: Gibberellin-Regulated Expression of a *myb* Gene in Barley Aleurone Cells: Evidence for Myb Transactivation of a High-pI α-Amylase Gene Promoter, 1879–1891

M. Kim and J. E. Mullet: Identification of a Sequence-Specific DNA Binding Factor Required for Transcription of the Barley Chloroplast Blue Light–Responsive *psbD-psbC* Promoter, 1445–1457

H. L. Mogensen and P. B. Holm: Dynamics of Nuclear DNA Quantities during Zygote Development in Barley, 487–494

S. Reinbothe, C. Reinbothe, H. Holtorf, and K. Apel: Two NADPH:Protochlorophyllide Oxidoreductases in Barley: Evidence for the Selective Disappearance of PORA during the Light-Induced Greening of Etiolated Seedlings, 1933–1940

Q. Shen and T.-H. D. Ho: Functional Dissection of an Abscisic Acid (ABA)–Inducible Gene Reveals Two Independent ABA-Responsive Complexes Each Containing a G-Box and a Novel *cis*-Acting Element, 295–307

Basal endosperm transfer 1 gene
G. Hueros, S. Varotto, F. Salamini, and R. D. Thompson: Molecular Characterization of *BET1*, a Gene Expressed in the Endosperm Transfer Cells of Maize, 747–757

Bean
A. R. Abad, B. J. Mehrtens, and S. A. Mackenzie: Specific Expression in Reproductive Tissues and Fate of a Mitochondrial Sterility-Associated Protein in Cytoplasmic Male-Sterile Bean, 271–285

Bestatin
A. Schaller, D. R. Bergey, and C. A. Ryan: Induction of Wound Response Genes in Tomato Leaves by Bestatin, an Inhibitor of Aminopeptidases, 1893–1898

Biochemistry
J. E. Varner: Foreword: 101 Reasons to Learn More Plant Biochemistry, 795–796

Branched chain amino acid biosynthesis
B. K. Singh and D. L. Shaner: Biosynthesis of Branched Chain Amino Acids: From Test Tube to Field, 935–944

Brassica napus
G. R. Heck, S. E. Perry, K. W. Nichols, and D. E. Fernandez: AGL15, a MADS Domain Protein Expressed in Developing Embryos, 1271–1282

Brassica oleracea
D. C. Boyes and J. B. Nasrallah: An Anther-Specific Gene Encoded by an *S* Locus Haplotype of *Brassica* Produces Complementary and Differentially Regulated Transcripts, 1283–1294

Broad bean
G. J. Allen and D. Sanders: Calcineurin, a Type 2B Protein Phosphatase, Modulates the Ca^{2+}-Permeable Slow Vacuolar Ion Channel of Stomatal Guard Cells, 1473–1483

***brown midrib3* gene**
F. Vignols, J. Rigau, M. A. Torres, M. Capellades, and P. Puigdomènech: The *brown midrib3* (*bm3*) Mutation in Maize Occurs in the Gene Encoding Caffeic Acid *O*-Methyltransferase, 407–416

C

C_3 photosynthetic pathway
R. T. Furbank and W. C. Taylor: Regulation of Photosynthesis in C_3 and C_4 Plants: A Molecular Approach, 797–807

C_4 photosynthetic pathway
R. T. Furbank and W. C. Taylor: Regulation of Photosynthesis in C_3 and C_4 Plants: A Molecular Approach, 797–807

Caffeic acid *O*-methyltransferase
F. Vignols, J. Rigau, M. A. Torres, M. Capellades, and P. Puigdomènech: The *brown midrib3* (*bm3*) Mutation in Maize Occurs in the Gene Encoding Caffeic Acid *O*-Methyltransferase, 407–416

Calcineurin
G. J. Allen and D. Sanders: Calcineurin, a Type 2B Protein Phosphatase, Modulates the Ca^{2+}-Permeable Slow Vacuolar Ion Channel of Stomatal Guard Cells, 1473–1483

Calcium
R. Chasan: New Openings into Stomata (In This Issue), 1113–1115
H. Karchi, D. Miron, S. Ben-Yaacov, and G. Galili: The Lysine-Dependent Stimulation of Lysine Catabolism in Tobacco Seed Requires Calcium and Protein Phosphorylation, 1963–1970
T. Kinoshita, M. Nishimura, and K.-i. Shimazaki: Cytosolic Concentration of Ca^{2+} Regulates the Plasma Membrane H^+-ATPase in Guard Cells of Fava Bean, 1333–1342
M. R. McAinsh, A. A. R. Webb, J. E. Taylor, and A. M. Hetherington: Stimulus-Induced Oscillations in Guard Cell Cytosolic Free Calcium, 1207–1219
A. F. Monroy and R. S. Dhindsa: Low-Temperature Signal Transduction: Induction of Cold Acclimation–Specific Genes of Alfalfa by Calcium at 25°C, 321–331
J. M. Ward, Z.-M. Pei, and J. I. Schroeder: Roles of Ion Channels in Initiation of Signal Transduction in Higher Plants, 833–844

Calcium channel
R. Malhó, N. D. Read, A. J. Trewavas, and M. S. Pais: Calcium Channel Activity during Pollen Tube Growth and Reorientation, 1173–1184

Callose
P. R. Bell: Reply (Letters To The Editor), 664–665
S. M. Read, E. Newbigin, A. E. Clarke, B. A. McClure, and T.-h. Kao: Disputed Ancestry: Comments on a Model for the Origin of Incompatibility in Flowering Plants (Letters To The Editor), 661–664

Callose biosynthesis
D. P. Delmer and Y. Amor: Cellulose Biosynthesis, 987–1000

Calreticulin
J. Denecke, L. E. Carlsson, S. Vidal, A.-S. Höglund, B. Ek, M. J. van Zeijl, K. M. C. Sinjorgo, and E. T. Palva: The Tobacco Homolog of Mammalian Calreticulin Is Present in Protein Complexes in Vivo, 391–406

***cap20* gene**
C.-S. Hwang, M. A. Flaishman, and P. E. Kolattukudy: Cloning of a Gene Expressed during Appressorium Formation by *Colletotrichum gloeosporioides* and a Marked Decrease in Virulence by Disruption of This Gene, 183–193

carbohydrate accumulation mutant1
K. Eimert, S.-M. Wang, W.-I. Lue, and J. Chen: Monogenic Recessive Mutations Causing Both Late Floral Initiation and Excess Starch Accumulation in Arabidopsis, 1703–1712

Carnation
T. Munnik, S. A. Arisz, T. de Vrije, and A. Musgrave: G Protein Activation Stimulates Phospholipase D Signaling in Plants, 2197–2210

Carotenoid biosynthesis
G. E. Bartley and P. A. Scolnik: Plant Carotenoids: Pigments for Photoprotection, Visual Attraction, and Human Health, 1027–1038
S. R. Norris, T. R. Barrette, and D. DellaPenna: Genetic Dissection of Carotenoid Synthesis in Arabidopsis Defines Plastoquinone as an Essential Component of Phytoene Desaturation, 2139–2149

Casein kinase II
L. J. Klimczak, M. A. Collinge, D. Farini, G. Giuliano, J. C. Walker, and A. R. Cashmore: Reconstitution of Arabidopsis Casein Kinase II from Recombinant Subunits and Phosphorylation of Transcription Factor GBF1, 105–115

Casuarina glauca
K. Jacobsen-Lyon, E. Østergaard Jensen, J.-E. Jørgensen, K. A. Marcker, W. J. Peacock, and E. S. Dennis: Symbiotic and Nonsymbiotic Hemoglobin Genes of *Casuarina glauca*, 213–223

Cauliflower mosaic virus
C. L. Thomas and A. J. Maule: Identification of Structural Domains within the Cauliflower Mosaic Virus Movement Protein by Scanning Deletion Mutagenesis and Epitope Tagging, 561–572

Cell cycle
J. S. Carmichael and W. E. Friedman: Double Fertilization in *Gnetum gnemon*: The Relationship between the Cell Cycle and Sexual Reproduction, 1975–1988
R. Chasan: STARTing the Plant Cell Cycle (In This Issue), 1–4
M. Dahl, I. Meskiene, L. Bögre, D. T. C. Ha, I. Swoboda, R. Hubmann, H. Hirt, and E. Heberle-Bors: The D-Type Alfalfa Cyclin Gene *cycMs4* Complements G_1 Cyclin–Deficient Yeast and Is Induced in the G_1 Phase of the Cell Cycle, 1847–1857
R. Soni, J. P. Carmichael, Z. H. Shah, and J. A. H. Murray: A Family of Cyclin D Homologs from Plants Differentially Controlled by Growth Regulators and Containing the Conserved Retinoblastoma Protein Interaction Motif, 85–103

Cell cycle progression
H. Kouchi, M. Sekine, and S. Hata: Distinct Classes of Mitotic Cyclins Are Differentially Expressed in the Soybean Shoot Apex during the Cell Cycle, 1143–1155

Cell cycle regulation
I. Meskiene, L. Bögre, M. Dahl, M. Pirck, D. T. C. Ha, I. Swoboda, E. Heberle-Bors, G. Ammerer, and H. Hirt: *cycMs3*, a Novel B-Type Alfalfa Cyclin Gene, Is Induced in the G_0-to-G_1 Transition of the Cell Cycle, 759–771

Cell wall
R. Whetten and R. Sederoff: Lignin Biosynthesis, 1001–1013

W. Xu, M. M. Purugganan, D. H. Polisensky, D. M. Antosiewicz, S. C. Fry, and J. Braam: Arabidopsis *TCH4*, Regulated by Hormones and the Environment, Encodes a Xyloglucan Endotransglycosylase, 1555–1567

Cellulose biosynthesis

D. P. Delmer and Y. Amor: Cellulose Biosynthesis, 987–1000

Chaperonins

S. Gutteridge and A. A. Gatenby: Rubisco Synthesis, Assembly, Mechanism, and Regulation, 809–819

Chilling sensitivity

J. Wu and J. Browse: Elevated Levels of High-Melting-Point Phosphatidylglycerols Do Not Induce Chilling Sensitivity in an Arabidopsis Mutant, 17–27

***CHL1* gene**

N. M. Crawford: Nitrate: Nutrient and Signal for Plant Growth, 859–868

Chlamydocin

G. Brosch, R. Ransom, T. Lechner, J. D. Walton, and P. Loidl: Inhibition of Maize Histone Deacetylases by HC Toxin, the Host-Selective Toxin of *Cochliobolus carbonum*, 1941–1950

Chlamydomonas

X. Chen, K. L. Kindle, and D. B. Stern: The Initiation Codon Determines the Efficiency but Not the Site of Translation Initiation in *Chlamydomonas* Chloroplasts, 1295–1305

N. Libessart, M.-L. Maddelein, N. Van den Koornhuyse, A. Decq, B. Delrue, G. Mouille, C. D'Hulst, and S. Ball: Storage, Photosynthesis, and Growth: The Conditional Nature of Mutations Affecting Starch Synthesis and Structure in *Chlamydomonas*, 1117–1127

F. G. Plumley and G. W. Schmidt: Light-Harvesting Chlorophyll *a/b* Complexes: Interdependent Pigment Synthesis and Protein Assembly, 689–704

J. M. Quinn and S. Merchant: Two Copper-Responsive Elements Associated with the Chlamydomonas Cyc6 Gene Function as Targets for Transcriptional Activators, 623–638

Chlamydomonas eugametos

T. Munnik, S. A. Arisz, T. de Vrije, and A. Musgrave: G Protein Activation Stimulates Phospholipase D Signaling in Plants, 2197–2210

Chlorophyll *a/b* binding protein genes

I. A. Carré and S. A. Kay: Multiple DNA–Protein Complexes at a Circadian-Regulated Promoter Element, 2039–2051

R. Flachmann and W. Kühlbrandt: Accumulation of Plant Antenna Complexes Is Regulated by Post-Transcriptional Mechanisms in Tobacco, 149–160

Chlorophyll *a/b* binding proteins

H.-m. Li, K. Culligan, R. A. Dixon, and J. Chory: *CUE1*: A Mesophyll Cell-Specific Positive Regulator of Light-Controlled Gene Expression in Arabidopsis, 1599–1610

Chlorophyll *b*

F. G. Plumley and G. W. Schmidt: Light-Harvesting Chlorophyll *a/b* Complexes: Interdependent Pigment Synthesis and Protein Assembly, 689–704

Chlorophyll binding proteins

D. von Wettstein, S. Gough, and C. G. Kannangara: Chlorophyll Biosynthesis, 1039–1057

Chlorophyll biosynthesis

N. Lebedev, B. van Cleve, G. Armstrong, and K. Apel: Chlorophyll Synthesis in a Deetiolated (det340) Mutant of Arabidopsis without NADPH-Protochlorophyllide (PChlide) Oxidoreductase (POR) A and Photoactive PChlide-F655, 2081–2090

D. von Wettstein, S. Gough, and C. G. Kannangara: Chlorophyll Biosynthesis, 1039–1057

Chloroplasts

G. E. Bartley and P. A. Scolnik: Plant Carotenoids: Pigments for Photoprotection, Visual Attraction, and Human Health, 1027–1038

R. Chasan: Internal Signals: Charting a Course through the Chloroplast (In This Issue), 1343–1345

X. Chen, K. L. Kindle, and D. B. Stern: The Initiation Codon Determines the Efficiency but Not the Site of Translation Initiation in *Chlamydomonas* Chloroplasts, 1295–1305

M. Kim and J. E. Mullet: Identification of a Sequence-Specific DNA Binding Factor Required for Transcription of the Barley Chloroplast Blue Light–Responsive *psbD-psbC* Promoter, 1445–1457

J. S. Knight and J. C. Gray: The N-Terminal Hydrophobic Region of the Mature Phosphate Translocator Is Sufficient for Targeting to the Chloroplast Inner Envelope Membrane, 1421–1432

S. Reinbothe, C. Reinbothe, H. Holtorf, and K. Apel: Two NADPH:Protochlorophyllide Oxidoreductases in Barley: Evidence for the Selective Disappearance of PORA during the Light-Induced Greening of Etiolated Seedlings, 1933–1940

D. von Wettstein, S. Gough, and C. G. Kannangara: Chlorophyll Biosynthesis, 1039–1057

Chromatids

J. J. English, K. Harrison, and J. D. G. Jones: Aberrant Transpositions of Maize Double *Ds*-Like Elements Usually Involve *Ds* Ends on Sister Chromatids, 1235–1247

Chromoplasts

G. E. Bartley and P. A. Scolnik: Plant Carotenoids: Pigments for Photoprotection, Visual Attraction, and Human Health, 1027–1038

Circadian regulation

I. A. Carré and S. A. Kay: Multiple DNA–Protein Complexes at a Circadian-Regulated Promoter Element, 2039–2051

Clp proteins

J. Shanklin, N. D. DeWitt, and J. M. Flanagan: The Stroma of Higher Plant Plastids Contain ClpP and ClpC, Functional Homologs of *Escherichia coli* ClpP and ClpA: An Archetypal Two-Component ATP-Dependent Protease, 1713–1722

Coat protein

Q. Kong, J.-W. Oh, and A. E. Simon: Symptom Attenuation by a Normally Virulent Satellite RNA of Turnip Crinkle Virus Is Associated with the Coat Protein Open Reading Frame, 1625–1634

Cochliobolus carbonum

G. Brosch, R. Ransom, T. Lechner, J. D. Walton, and P. Loidl: Inhibition of Maize Histone Deacetylases by HC Toxin, the Host-Selective Toxin of *Cochliobolus carbonum*, 1941–1950

Cochliobolus victoriae

D. A. Navarre and T. J. Wolpert: Inhibition of the Glycine Decarboxylase Multienzyme Complex by the Host-Selective Toxin Victorin, 463–471

Cold acclimation

A. F. Monroy and R. S. Dhindsa: Low-Temperature Signal Transduction: Induction of Cold Acclimation–Specific Genes of Alfalfa by Calcium at 25°C, 321–331

Colletotrichum gloeosporioides

C.-S. Hwang, M. A. Flaishman, and P. E. Kolattukudy: Cloning of a Gene Expressed during Appressorium Formation by *Colletotrichum gloeosporioides* and a Marked Decrease in Virulence by Disruption of This Gene, 183–193

Commelina communis

M. R. McAinsh, A. A. R. Webb, J. E. Taylor, and A. M. Hetherington: Stimulus-Induced Oscillations in Guard Cell Cytosolic Free Calcium, 1207–1219

Companion cells

N. D. DeWitt and M. R. Sussman: Immunocytological Localization of an Epitope-Tagged Plasma Membrane Proton Pump (H^+-ATPase) in Phloem Companion Cells, 2053–2067

R. Stadler, J. Brandner, A. Schulz, M. Gahrtz, and N. Sauer: Phloem Loading by the PmSUC2 Sucrose Carrier from *Plantago major* Occurs into Companion Cells, 1545–1554

***constitutive photomorphogenic 1* mutant**

N. Quaedvlieg, J. Dockx, F. Rook, P. Weisbeek, and S. Smeekens: The Homeobox Gene *ATH1* of Arabidopsis Is Derepressed in the Photomorphogenic Mutants *cop1* and *det1*, 117–129

Convergence

F. B. Pickett and D. R. Meeks-Wagner: Seeing Double: Appreciating Genetic Redundancy, 1347–1356

Copper-responsive elements

J. M. Quinn and S. Merchant: Two Copper-Responsive Elements Associated with the Chlamydomonas Cyc6 Gene Function as Targets for Transcriptional Activators, 623–638

Coprinus cinereus

A. H. Banham, R. N. Asante-Owusu, B. Göttgens, S. A. J. Thompson, C. S. Kingsnorth, E. J. C. Mellor, and L. A. Casselton: An N-Terminal Dimerization Domain Permits Homeodomain Proteins To Choose Compatible Partners and Initiate Sexual Development in the Mushroom *Coprinus cinereus*, 773–783

Cosuppression
F. de Carvalho Niebel, P. Frendo, M. Van Montagu, and M. Cornelissen: Post-Transcriptional Cosuppression of β-1,3-Glucanase Genes Does Not Affect Accumulation of Transgene Nuclear mRNA, 347–358

Crossovers
X. Xu, A.-P. Hsia, L. Zhang, B. J. Nikolau, and P. S. Schnable: Meiotic Recombination Break Points Resolve at High Rates at the 5′ End of a Maize Coding Sequence, 2151–2161

CUE1
H.-m. Li, K. Culligan, R. A. Dixon, and J. Chory: *CUE1*: A Mesophyll Cell-Specific Positive Regulator of Light-Controlled Gene Expression in Arabidopsis, 1599–1610

Cuphea hookeriana
R. Chasan: Engineering Fatty Acids—The Long and Short of It (In This Issue), 235–237
A. Jones, H. M. Davies, and T. A. Voelker: Palmitoyl–Acyl Carrier Protein (ACP) Thioesterase and the Evolutionary Origin of Plant Acyl-ACP Thioesterases, 359–371

Cyclin genes
I. Meskiene, L. Bögre, M. Dahl, M. Pirck, D. T. C. Ha, I. Swoboda, E. Heberle-Bors, G. Ammerer, and H. Hirt: *cycMs3*, a Novel B-Type Alfalfa Cyclin Gene, Is Induced in the G_0-to-G_1 Transition of the Cell Cycle, 759–771

Cyclins
R. Chasan: STARTing the Plant Cell Cycle (In This Issue), 1–4
M. Dahl, I. Meskiene, L. Bögre, D. T. C. Ha, I. Swoboda, R. Hubmann, H. Hirt, and E. Heberle-Bors: The D-Type Alfalfa Cyclin Gene *cycMs4* Complements G_1 Cyclin–Deficient Yeast and Is Induced in the G_1 Phase of the Cell Cycle, 1847–1857
H. Kouchi, M. Sekine, and S. Hata: Distinct Classes of Mitotic Cyclins Are Differentially Expressed in the Soybean Shoot Apex during the Cell Cycle, 1143–1155
R. Soni, J. P. Carmichael, Z. H. Shah, and J. A. H. Murray: A Family of Cyclin D Homologs from Plants Differentially Controlled by Growth Regulators and Containing the Conserved Retinoblastoma Protein Interaction Motif, 85–103

***cycMs3* gene**
I. Meskiene, L. Bögre, M. Dahl, M. Pirck, D. T. C. Ha, I. Swoboda, E. Heberle-Bors, G. Ammerer, and H. Hirt: *cycMs3*, a Novel B-Type Alfalfa Cyclin Gene, Is Induced in the G_0-to-G_1 Transition of the Cell Cycle, 759–771

***cycMs4* gene**
M. Dahl, I. Meskiene, L. Bögre, D. T. C. Ha, I. Swoboda, R. Hubmann, H. Hirt, and E. Heberle-Bors: The D-Type Alfalfa Cyclin Gene *cycMs4* Complements G_1 Cyclin–Deficient Yeast and Is Induced in the G_1 Phase of the Cell Cycle, 1847–1857

Cytochrome c_6 gene
J. M. Quinn and S. Merchant: Two Copper-Responsive Elements Associated with the Chlamydomonas Cyc6 Gene Function as Targets for Transcriptional Activators, 623–638

Cytochrome P450
R. G. Winkler and T. Helentjaris: The Maize *Dwarf3* Gene Encodes a Cytochrome P450-Mediated Early Step in Gibberellin Biosynthesis, 1307–1317

Cytoplasmic male sterility
A. R. Abad, B. J. Mehrtens, and S. A. Mackenzie: Specific Expression in Reproductive Tissues and Fate of a Mitochondrial Sterility-Associated Protein in Cytoplasmic Male-Sterile Bean, 271–285

Cytoskeleton
D. P. Delmer and Y. Amor: Cellulose Biosynthesis, 987–1000
B. Gail McLean, J. Zupan, and P. C. Zambryski: Tobacco Mosaic Virus Movement Protein Associates with the Cytoskeleton in Tobacco Cells, 2101–2114

Cytotoxicity
T. M. Kutchan: Alkaloid Biosynthesis—The Basis for Metabolic Engineering of Medicinal Plants, 1059–1070

D

***deetiolated 1* mutant**
N. Quaedvlieg, J. Dockx, F. Rook, P. Weisbeek, and S. Smeekens: The Homeobox Gene *ATH1* of Arabidopsis Is Derepressed in the Photomorphogenic Mutants *cop1* and *det1*, 117–129

***deetiolated 340* mutant**
N. Lebedev, B. van Cleve, G. Armstrong, and K. Apel: Chlorophyll Synthesis in a Deetiolated (det340) Mutant of Arabidopsis without NADPH-Protochlorophyllide (PChlide) Oxidoreductase (POR) A and Photoactive PChlide-F655, 2081–2090

Defense genes
A. Schaller, D. R. Bergey, and C. A. Ryan: Induction of Wound Response Genes in Tomato Leaves by Bestatin, an Inhibitor of Aminopeptidases, 1893–1898

Defense response
F. R. G. Terras, K. Eggermont, V. Kovaleva, N. V. Raikhel, R. W. Osborn, A. Kester, S. B. Rees, S. Torrekens, F. Van Leuven, J. Vanderleyden, B. P. A. Cammue, and W. F. Broekaert: Small Cysteine-Rich Antifungal Proteins from Radish: Their Role in Host Defense, 573–588

Deficiens
V. F. Irish and Y. T. Yamamoto: Conservation of Floral Homeotic Gene Function between Arabidopsis and Antirrhinum, 1635–1644

Dephosphorylation
G. J. Allen and D. Sanders: Calcineurin, a Type 2B Protein Phosphatase, Modulates the Ca^{2+}-Permeable Slow Vacuolar Ion Channel of Stomatal Guard Cells, 1473–1483

Depolarization
R. Chasan: New Openings into Stomata (In This Issue), 1113–1115
T. Kinoshita, M. Nishimura, and K-i. Shimazaki: Cytosolic Concentration of Ca^{2+} Regulates the Plasma Membrane H^+-ATPase in Guard Cells of Fava Bean, 1333–1342
R. Malhó, N. D. Read, A. J. Trewavas, and M. S. Pais: Calcium Channel Activity during Pollen Tube Growth and Reorientation, 1173–1184

Digalactosyl diacylglycerol
P. Dörmann, S. Hoffmann-Benning, I. Balbo, and C. Benning: Isolation and Characterization of an Arabidopsis Mutant Deficient in the Thylakoid Lipid Digalactosyl Diacylglycerol, 1801–1810

Dioecy
C. Ainsworth, S. Crossley, V. Buchanan-Wollaston, M. Thangavelu, and J. Parker: Male and Female Flowers of the Dioecious Plant Sorrel Show Different Patterns of MADS Box Gene Expression, 1583–1598

***Dissociation* elements**
J. J. English, K. Harrison, and J. D. G. Jones: Aberrant Transpositions of Maize Double *Ds*-Like Elements Usually Involve *Ds* Ends on Sister Chromatids, 1235–1247

DNA binding domain
D. Weigel: The APETALA2 Domain Is Related to a Novel Type of DNA Binding Domain (Letter To The Editor), 388–389

DNA binding proteins
M. Ohme-Takagi and H. Shinshi: Ethylene-Inducible DNA Binding Proteins That Interact with an Ethylene-Responsive Element, 173–182
B. Zhang, W. Chen, R. C. Foley, M. Büttner, and K. B. Singh: Interactions between Distinct Types of DNA Binding Proteins Enhance Binding to *ocs* Element Promoter Sequences, 2241–2252

DNA synthesis
R. Chasan: Geminiviruses: A Twin Approach to Replication (In This Issue), 659–661
H. L. Mogensen and P. B. Holm: Dynamics of Nuclear DNA Quantities during Zygote Development in Barley, 487–494
S. Nagar, T. J. Pedersen, K. M. Carrick, L. Hanley-Bowdoin, and D. Robertson: A Geminivirus Induces Expression of a Host DNA Synthesis Protein in Terminally Differentiated Plant Cells, 705–719

Double fertilization
J. S. Carmichael and W. E. Friedman: Double Fertilization in *Gnetum gnemon*: The Relationship between the Cell Cycle and Sexual Reproduction, 1975–1988

Drought stress
H. J. Bohnert, D. E. Nelson, and R. G. Jensen: Adaptations to Environmental Stresses, 1099–1111

***Dwarf3* gene**
R. G. Winkler and T. Helentjaris: The Maize *Dwarf3* Gene Encodes a Cytochrome P450-Mediated Early Step in Gibberellin Biosynthesis, 1307–1317

E

ECERIFERUM
M. G. M. Aarts, C. J. Keijzer, W. J. Stiekema, and A. Pereira: Molecular Characterization of the *CER1* Gene of Arabidopsis Involved in Epicuticular Wax Biosynthesis and Pollen Fertility, 2115–2127

Electron transfer chain
J. N. Siedow and A. L. Umbach: Plant Mitochondrial Electron Transfer and Molecular Biology, 821–831

Elicitors
R. Chasan: Eliciting Phosphorylation (In This Issue), 495–497
K. Suzuki and H. Shinshi: Transient Activation and Tyrosine Phosphorylation of a Protein Kinase in Tobacco Cells Treated with a Fungal Elicitor, 639–647

***Em* gene**
C. D. Knight, A. Sehgal, K. Atwal, J. C. Wallace, D. J. Cove, D. Coates, R. S. Quatrano, S. Bahadur, P. G. Stockley, and A. C. Cuming: Molecular Responses to Abscisic Acid and Stress Are Conserved between Moss and Cereals, 499–506

***Em* promoter**
V. Vasil, W. R. Marcotte, Jr., L. Rosenkrans, S. M. Cocciolone, I. K. Vasil, R. S. Quatrano, and D. R. McCarty: Overlap of Viviparous1 (VP1) and Abscisic Acid Response Elements in the *Em* Promoter: G-Box Elements Are Sufficient but Not Necessary for VP1 Transactivation, 1511–1518

Embryogenesis
R. Chasan: Arabidopsis in Madison: Genes and Phenotypes Spreak like Weeds (Meeting Report), 1737–1748
G. R. Heck, S. E. Perry, K. W. Nichols, and D. E. Fernandez: AGL15, a MADS Domain Protein Expressed in Developing Embryos, 1271–1282

Endonuclease
R. Mittler and E. Lam: Identification, Characterization, and Purification of a Tobacco Endonuclease Activity Induced upon Hypersensitive Response Cell Death, 1951–1962

Endoplasmic reticulum
N. Campos and A. Boronat: Targeting and Topology in the Membrane of Plant 3-Hydroxy-3-Methylglutaryl Coenzyme A Reductase, 2163–2174

Endoplasmin
J. Denecke, L. E. Carlsson, S. Vidal, A.-S. Höglund, B. Ek, M. J. van Zeijl, K. M. C. Sinjorgo, and E. T. Palva: The Tobacco Homolog of Mammalian Calreticulin Is Present in Protein Complexes in Vivo, 391–406

Endoproteinases
J. Callis: Regulation of Protein Degradation, 845–857

Endosperm development
G. Hueros, S. Varotto, F. Salamini, and R. D. Thompson: Molecular Characterization of *BET1*, a Gene Expressed in the Endosperm Transfer Cells of Maize, 747–757

***ent*-Kaurene**
R. J. Bensen, G. S. Johal, V. C. Crane, J. T. Tossberg, P. S. Schnable, R. B. Meeley, and S. P. Briggs: Cloning and Characterization of the Maize *An1* Gene, 75–84
R. Chasan: GA Biosynthesis: A Glimpse at the Genes (In This Issue), 141–143

Envelope membranes
R. Chasan: Internal Signals: Charting a Course through the Chloroplast (In This Issue), 1343–1345
J. S. Knight and J. C. Gray: The N-Terminal Hydrophobic Region of the Mature Phosphate Translocator Is Sufficient for Targeting to the Chloroplast Inner Envelope Membrane, 1421–1432

Environmental remediation
R. Chasan: ASPP Meeting: Germinating Ideas in Portland (Meeting Report), 144–148

Epidermal cells
S. Thomine, S. Zimmermann, J. Guern, and H. Barbier-Brygoo: ATP-Dependent Regulation of an Anion Channel at the Plasma Membrane of Protoplasts from Epidermal Cells of Arabidopsis Hypocotyls, 2091–2100

Epimutation
R. L. Phillips, M. A. Matzke, and K. Oono: Treasure Your Exceptions (Meeting Report), 1522–1527

Erwinia carotovora* subsp *carotovora
G. Wu, B. J. Shortt, E. B. Lawrence, E. B. Levine, K. C. Fitzsimmons, and D. M. Shah: Disease Resistance Conferred by Expression of a Gene Encoding H_2O_2-Generating Glucose Oxidase in Transgenic Potato Plants, 1357–1368

Escherichia coli
J. Shanklin, N. D. DeWitt, and J. M. Flanagan: The Stroma of Higher Plant Plastids Contain ClpP and ClpC, Functional Homologs of *Escherichia coli* ClpP and ClpA: An Archetypal Two-Component ATP-Dependent Protease, 1713–1722

Ethylene
R. Chasan: ASPP Meeting: Germinating Ideas in Portland (Meeting Report), 144–148
J. J. King, D. P. Stimart, R. H. Fisher, and A. B. Bleecker: A Mutation Altering Auxin Homeostasis and Plant Morphology in Arabidopsis, 2023–2037

Ethylene-responsive element binding proteins
M. Ohme-Takagi and H. Shinshi: Ethylene-Inducible DNA Binding Proteins That Interact with an Ethylene-Responsive Element, 173–182
D. Weigel: The APETALA2 Domain Is Related to a Novel Type of DNA Binding Domain (Letter To The Editor), 388–389

Etioplasts
S. Reinbothe, C. Reinbothe, H. Holtorf, and K. Apel: Two NADPH:Protochlorophyllide Oxidoreductases in Barley: Evidence for the Selective Disappearance of PORA during the Light-Induced Greening of Etiolated Seedlings, 1933–1940

Eukaryotic initiation factor-(iso)4F
J. D. Hugdahl, C. L. Bokros, and L. C. Morejohn: End-to-End Annealing of Plant Microtubules by the p86 Subunit of Eukaryotic Initiation Factor–(iso)4F, 2129–2138

Extensin-like proteins
A. L. Rubinstein, J. Márquez, M. Suárez-Cervera, and P. A. Bedinger: Extensin-like Glycoproteins in the Maize Pollen Tube Wall, 2211–2225

F

Fatty acid biosynthesis
J. Ohlrogge and J. Browse: Lipid Biosynthesis, 957–970

***fatty acid biosynthesis* mutant**
J. Wu and J. Browse: Elevated Levels of High-Melting-Point Phosphatidylglycerols Do Not Induce Chilling Sensitivity in an Arabidopsis Mutant, 17–27

***FATTY ACID ELONGATION1* gene**
D. W. James, Jr., E. Lim, J. Keller, I. Plooy, E. Ralston, and H. K. Dooner: Directed Tagging of the Arabidopsis *FATTY ACID ELONGATION1* (*FAE1*) Gene with the Maize Transposon *Activator*, 309–319

Fatty acid synthesis
R. Chasan: Engineering Fatty Acids—The Long and Short of It (In This Issue), 235–237
A. Jones, H. M. Davies, and T. A. Voelker: Palmitoyl–Acyl Carrier Protein (ACP) Thioesterase and the Evolutionary Origin of Plant Acyl-ACP Thioesterases, 359–371

Fava bean
T. Kinoshita, M. Nishimura, and K.-i. Shimazaki: Cytosolic Concentration of Ca^{2+} Regulates the Plasma Membrane H^+-ATPase in Guard Cells of Fava Bean, 1333–1342
H. Weber, L. Borisjuk, U. Heim, P. Buchner, and U. Wobus: Seed Coat–Associated Invertases of Fava Bean Control Both Unloading and Storage Functions: Cloning of cDNAs and Cell Type–Specific Expression, 1835–1846

***Fen* gene**
C. M. T. Rommens, J. M. Salmeron, D. C. Baulcombe, and B. J. Staskawicz: Use of a Gene Expression System Based on Potato Virus X to Rapidly Identify and Characterize a Tomato *Pto* Homolog That Controls Fenthion Sensitivity, 249–257

Fenthion
C. M. T. Rommens, J. M. Salmeron, D. C. Baulcombe, and B. J. Staskawicz: Use of a Gene Expression System Based on Potato Virus X to Rapidly Identify and Characterize a Tomato *Pto* Homolog That Controls Fenthion Sensitivity, 249–257

FIMBRIATA
G. C. Ingram, J. Goodrich, M. D. Wilkinson, R. Simon, G. W. Haughn, and E. S. Coen: Parallels between *UNUSUAL FLORAL ORGANS* and *FIMBRIATA*, Genes Controlling Flower Development in Arabidopsis and Antirrhinum, 1501–1510

Flavonoids
T. A. Holton and E. C. Cornish: Genetics and Biochemistry of Anthocyanin Biosynthesis, 1071–1083
Flax
K. Harms, R. Atzorn, A. Brash, H. Kühn, C. Wasternack, L. Willmitzer, and H. Peña-Cortés: Expression of a Flax Allene Oxide Synthase cDNA Leads to Increased Endogenous Jasmonic Acid (JA) Levels in Transgenic Potato Plants but Not to a Corresponding Activation of JA-Responding Genes, 1645–1654
G. J. Lawrence, E. J. Finnegan, M. A. Ayliffe, and J. G. Ellis: The *L6* Gene for Flax Rust Resistance Is Related to the Arabidopsis Bacterial Resistance Gene *RPS2* and the Tobacco Viral Resistance Gene *N*, 1195–1206
***floral binding protein* gene 1**
G. C. Angenent, M. Busscher, J. Franken, H. J. M. Dons, and A. J. van Tunen: Functional Interaction between the Homeotic Genes *fbp1* and *pMADS1* during Petunia Floral Organogenesis, 507–516
***floral binding protein* gene 11**
R. Chasan: Ovule Origins (In This Issue), 1735–1737
L. Colombo, J. Franken, E. Koetje, J. van Went, H. J. M. Dons, G. C. Angenent, and A. J. van Tunen: The Petunia MADS Box Gene *FBP11* Determines Ovule Identity, 1859–1868
***floral binding protein* genes**
G. C. Angenent, J. Franken, M. Busscher, A. van Dijken, J. L. van Went, H. J. M. Dons, and A. J. van Tunen: A Novel Class of MADS Box Genes Is Involved in Ovule Development in Petunia, 1569–1582
Floral development
C. Ainsworth, S. Crossley, V. Buchanan-Wollaston, M. Thangavelu, and J. Parker: Male and Female Flowers of the Dioecious Plant Sorrel Show Different Patterns of MADS Box Gene Expression, 1583–1598
G. C. Angenent, M. Busscher, J. Franken, H. J. M. Dons, and A. J. van Tunen: Functional Interaction between the Homeotic Genes *fbp1* and *pMADS1* during Petunia Floral Organogenesis, 507–516
R. Chasan: Ovule Origins (In This Issue), 1735–1737
V. F. Irish and Y. T. Yamamoto: Conservation of Floral Homeotic Gene Function between Arabidopsis and Antirrhinum, 1635–1644
J. Z. Levin and E. M. Meyerowitz: *UFO*: An Arabidopsis Gene Involved in Both Floral Meristem and Floral Organ Development, 529–548
B. Savidge, S. D. Rounsley, and M. F. Yanofsky: Temporal Relationship between the Transcription of Two Arabidopsis MADS Box Genes and the Floral Organ Identity Genes, 721–733
Floral initiation
K. Eimert, S.-M. Wang, W.-I. Lue, and J. Chen: Monogenic Recessive Mutations Causing Both Late Floral Initiation and Excess Starch Accumulation in Arabidopsis, 1703–1712
Floral meristems
A. J. Kelly, M. B. Bonnlander, and D. R. Meeks-Wagner: *NFL*, the Tobacco Homolog of *FLORICAULA* and *LEAFY*, Is Transcriptionally Expressed in Both Vegetative and Floral Meristems, 225–234
J. Z. Levin and E. M. Meyerowitz: *UFO*: An Arabidopsis Gene Involved in Both Floral Meristem and Floral Organ Development, 529–548
floricaula
R. Carpenter, L. Copsey, C. Vincent, S. Doyle, R. Magrath, and E. Coen: Control of Flower Development and Phyllotaxy by Meristem Identity Genes in Antirrhinum, 2001–2011
A. J. Kelly, M. B. Bonnlander, and D. R. Meeks-Wagner: *NFL*, the Tobacco Homolog of *FLORICAULA* and *LEAFY*, Is Transcriptionally Expressed in Both Vegetative and Floral Meristems, 225–234
Flower color
T. A. Holton and E. C. Cornish: Genetics and Biochemistry of Anthocyanin Biosynthesis, 1071–1083
Flower development
R. Carpenter, L. Copsey, C. Vincent, S. Doyle, R. Magrath, and E. Coen: Control of Flower Development and Phyllotaxy by Meristem Identity Genes in Antirrhinum, 2001–2011
G. C. Ingram, J. Goodrich, M. D. Wilkinson, R. Simon, G. W. Haughn, and E. S. Coen: Parallels between *UNUSUAL FLORAL ORGANS* and *FIMBRIATA*, Genes Controlling Flower Development in Arabidopsis and Antirrhinum, 1501–1510
S. D. Rounsley, G. S. Ditta, and M. F. Yanofsky: Diverse Roles for MADS Box Genes in Arabidopsis Development, 1259–1269
L. E. Sieburth, M. P. Running, and E. M. Meyerowitz: Genetic Separation of Third and Fourth Whorl Functions of *AGAMOUS*, 1249–1258
M. D. Wilkinson and G. W. Haughn: *UNUSUAL FLORAL ORGANS* Controls Meristem Identity and Organ Primordia Fate in Arabidopsis, 1485–1499
***four lips* mutant**
M. Yang and F. D. Sack: The *too many mouths* and *four lips* Mutations Affect Stomatal Production in Arabidopsis, 2227–2239
Fungal resistance
H. Kinal, C.-M. Park, J. O. Berry, Y. Koltin, and J. A. Bruenn: Processing and Secretion of a Virally Encoded Antifungal Toxin in Transgenic Tobacco Plants: Evidence for a Kex2p Pathway in Plants, 677–688

G

G protein
Rebecca Chasan: Signaling a Role for Phospholipid-Derived Compounds in Plants, 1971–1974
T. Munnik, S. A. Arisz, T. de Vrije, and A. Musgrave: G Protein Activation Stimulates Phospholipase D Signaling in Plants, 2197–2210
***GA4* locus**
H.-H. Chiang, I. Hwang, and H. M. Goodman: Isolation of the Arabidopsis *GA4* Locus, 195–201
Galactolipids
P. Dörmann, S. Hoffmann-Benning, I. Balbo, and C. Benning: Isolation and Characterization of an Arabidopsis Mutant Deficient in the Thylakoid Lipid Digalactosyl Diacylglycerol, 1801–1810
G-box
Q. Shen and T.-H. D. Ho: Functional Dissection of an Abscisic Acid (ABA)–Inducible Gene Reveals Two Independent ABA-Responsive Complexes Each Containing a G-Box and a Novel *cis*-Acting Element, 295–307
Geminiviruses
R. Chasan: Geminiviruses: A Twin Approach to Replication (In This Issue), 659–661
S. Nagar, T. J. Pedersen, K. M. Carrick, L. Hanley-Bowdoin, and D. Robertson: A Geminivirus Induces Expression of a Host DNA Synthesis Protein in Terminally Differentiated Plant Cells, 705–719
Gene sequencing
R. Chasan: Arabidopsis in Madison: Genes and Phenotypes Spreak like Weeds (Meeting Report), 1737–1748
Gene silencing
F. de Carvalho Niebel, P. Frendo, M. Van Montagu, and M. Cornelissen: Post-Transcriptional Cosuppression of β-1,3-Glucanase Genes Does Not Affect Accumulation of Transgene Nuclear mRNA, 347–358
R. L. Phillips, M. A. Matzke, and K. Oono: Treasure Your Exceptions (Meeting Report), 1522–1527
Gene trapping
R. Chasan: Arabidopsis in Madison: Genes and Phenotypes Spreak like Weeds (Meeting Report), 1737–1748
Genetic redundancy
F. B. Pickett and D. R. Meeks-Wagner: Seeing Double: Appreciating Genetic Redundancy, 1347–1356
Genomic sequencing
R. Chasan: Arabidopsis in Madison: Genes and Phenotypes Spreak like Weeds (Meeting Report), 1737–1748
A. V. Vershinin, T. Schwarzacher, and J. S. Heslop-Harrison: The Large-Scale Genomic Organization of Repetitive DNA Families at the Telomeres of Rye Chromosomes, 1823–1833
***GH3* gene**
T. Ulmasov, Z.-B. Liu, G. Hagen, and T. J. Guilfoyle: Composite Structure of Auxin Response Elements, 1611–1623
Gibberellin
F. Gubler, R. Kalla, J. K. Roberts, and J. V. Jacobsen: Gibberellin-Regulated Expression of a *myb* Gene in Barley Aleurone Cells: Evidence for Myb Transactivation of a High-pI α-Amylase Gene Promoter, 1879–1891

Gibberellin biosynthesis
R. J. Bensen, G. S. Johal, V. C. Crane, J. T. Tossberg, P. S. Schnable, R. B. Meeley, and S. P. Briggs: Cloning and Characterization of the Maize *An1* Gene, 75–84
R. Chasan: GA Biosynthesis: A Glimpse at the Genes (In This Issue), 141–143
R. G. Winkler and T. Helentjaris: The Maize *Dwarf3* Gene Encodes a Cytochrome P450-Mediated Early Step in Gibberellin Biosynthesis, 1307–1317
gigantea
K. Eimert, S-M. Wang, W-l. Lue, and J. Chen: Monogenic Recessive Mutations Causing Both Late Floral Initiation and Excess Starch Accumulation in Arabidopsis, 1703–1712
Globulins
P. R. Shewry, J. A. Napier, and A. S. Tatham: Seed Storage Proteins: Structures and Biosynthesis, 945–956
β-1,3-Glucanase genes
F. de Carvalho Niebel, P. Frendo, M. Van Montagu, and M. Cornelissen: Post-Transcriptional Cosuppression of β-1,3-Glucanase Genes Does Not Affect Accumulation of Transgene Nuclear mRNA, 347–358
Glucose oxidase
G. Wu, B. J. Shortt, E. B. Lawrence, E. B. Levine, K. C. Fitzsimmons, and D. M. Shah: Disease Resistance Conferred by Expression of a Gene Encoding H_2O_2-Generating Glucose Oxidase in Transgenic Potato Plants, 1357–1368
α-(1→6) Glucosyl linkages
M. G. James, D. S. Robertson, and A. M. Myers: Characterization of the Maize Gene *sugary1*, a Determinant of Starch Composition in Kernels, 417–429
β-Glucuronidase
Q. Zhu, T. Dabi, and C. Lamb: TATA Box and Initiator Functions in the Accurate Transcription of a Plant Minimal Promoter in Vitro, 1681–1689
β-Glucuronidase gene
L. Mlynárová, R. C. Jansen, A. J. Conner, W. J. Stiekema, and J.-P. Nap: The MAR-Mediated Reduction in Position Effect Can Be Uncoupled from Copy Number–Dependent Expression in Transgenic Plants, 599–609
Glycerolipid biosynthesis
J. Ohlrogge and J. Browse: Lipid Biosynthesis, 957–970
Glycine decarboxylase complex
R. Chasan: Victorin's Secret (In This Issue), 385–387
D. A. Navarre and T. J. Wolpert: Inhibition of the Glycine Decarboxylase Multienzyme Complex by the Host-Selective Toxin Victorin, 463–471
Glycoproteins
A. L. Rubinstein, J. Márquez, M. Suárez-Cervera, and P. A. Bedinger: Extensin-like Glycoproteins in the Maize Pollen Tube Wall, 2211–2225
Gnetum gnemon
J. S. Carmichael and W. E. Friedman: Double Fertilization in *Gnetum gnemon*: The Relationship between the Cell Cycle and Sexual Reproduction, 1975–1988
Guard cells
G. J. Allen and D. Sanders: Calcineurin, a Type 2B Protein Phosphatase, Modulates the Ca^{2+}-Permeable Slow Vacuolar Ion Channel of Stomatal Guard Cells, 1473–1483
T. Kinoshita, M. Nishimura, and K.-i. Shimazaki: Cytosolic Concentration of Ca^{2+} Regulates the Plasma Membrane H^+-ATPase in Guard Cells of Fava Bean, 1333–1342
M. R. McAinsh, A. A. R. Webb, J. E. Taylor, and A. M. Hetherington: Stimulus-Induced Oscillations in Guard Cell Cytosolic Free Calcium, 1207–1219

H

H protein
D. A. Navarre and T. J. Wolpert: Inhibition of the Glycine Decarboxylase Multienzyme Complex by the Host-Selective Toxin Victorin, 463–471
H^+-ATPase
R. Chasan: New Openings into Stomata (In This Issue), 1113–1115
N. D. DeWitt and M. R. Sussman: Immunocytological Localization of an Epitope-Tagged Plasma Membrane Proton Pump (H^+-ATPase) in Phloem Companion Cells, 2053–2067
T. Kinoshita, M. Nishimura, and K.-i. Shimazaki: Cytosolic Concentration of Ca^{2+} Regulates the Plasma Membrane H^+-ATPase in Guard Cells of Fava Bean, 1333–1342
B. Regenberg, J. M. Villalba, F. C. Lanfermeijer, and M. G. Palmgren: C-Terminal Deletion Analysis of Plant Plasma Membrane H^+-ATPase: Yeast as a Model System for Solute Transport across the Plant Plasma Membrane, 1655–1666
HC toxin
G. Brosch, R. Ransom, T. Lechner, J. D. Walton, and P. Loidl: Inhibition of Maize Histone Deacetylases by HC Toxin, the Host-Selective Toxin of *Cochliobolus carbonum*, 1941–1950
Helper component proteinase
S. Cronin, J. Verchot, R. Haldeman-Cahill, M. C. Schaad, and J. C. Carrington: Long-Distance Movement Factor: A Transport Function of the Potyvirus Helper Component Proteinase, 549–559
Hemoglobin genes
K. Jacobsen-Lyon, E. Østergaard Jensen, J.-E. Jørgensen, K. A. Marcker, W. J. Peacock, and E. S. Dennis: Symbiotic and Nonsymbiotic Hemoglobin Genes of *Casuarina glauca*, 213–223
Herbicides
B. K. Singh and D. L. Shaner: Biosynthesis of Branched Chain Amino Acids: From Test Tube to Field, 935–944
High chlorophyll fluorescence106 gene
L. Das and R. Martienssen: Site-Selected Transposon Mutagenesis at the *hcf106* Locus in Maize, 287–294
M. Enjuto, V. Lumbreras, C. Marín, and A. Boronat: Expression of the Arabidopsis *HMG2* Gene, Encoding 3-Hydroxy-3-Methylglutaryl Coenzyme A Reductase, Is Restricted to Meristematic and Floral Tissues, 517–527
High-irradiance response
T. W. McNellis and X.-W. Deng: Light Control of Seedling Morphogenetic Pattern, 1749–1761
Histone deacetylases
G. Brosch, R. Ransom, T. Lechner, J. D. Walton, and P. Loidl: Inhibition of Maize Histone Deacetylases by HC Toxin, the Host-Selective Toxin of *Cochliobolus carbonum*, 1941–1950
History of biology
J. E. Varner: Foreword: 101 Reasons to Learn More Plant Biochemistry, 795–796
***HMG2* gene**
M. Enjuto, V. Lumbreras, C. Marín, and A. Boronat: Expression of the Arabidopsis *HMG2* Gene, Encoding 3-Hydroxy-3-Methylglutaryl Coenzyme A Reductase, Is Restricted to Meristematic and Floral Tissues, 517–527
Homeobox gene
N. Quaedvlieg, J. Dockx, F. Rook, P. Weisbeek, and S. Smeekens: The Homeobox Gene *ATH1* of Arabidopsis Is Derepressed in the Photomorphogenic Mutants *cop1* and *det1*, 117–129
Homeodomain proteins
A. H. Banham, R. N. Asante-Owusu, B. Göttgens, S. A. J. Thompson, C. S. Kingsnorth, E. J. C. Mellor, and L. A. Casselton: An N-Terminal Dimerization Domain Permits Homeodomain Proteins To Choose Compatible Partners and Initiate Sexual Development in the Mushroom *Coprinus cinereus*, 773–783
Homeotic genes
G. C. Angenent, M. Busscher, J. Franken, H. J. M. Dons, and A. J. van Tunen: Functional Interaction between the Homeotic Genes *fbp1* and *pMADS1* during Petunia Floral Organogenesis, 507–516
V. F. Irish and Y. T. Yamamoto: Conservation of Floral Homeotic Gene Function between Arabidopsis and Antirrhinum, 1635–1644
Q. Shen and T.-H. D. Ho: Functional Dissection of an Abscisic Acid (ABA)–Inducible Gene Reveals Two Independent ABA-Responsive Complexes Each Containing a G-Box and a Novel *cis*-Acting Element, 295–307
***HVA22* gene**
Q. Shen and T.-H. D. Ho: Functional Dissection of an Abscisic Acid (ABA)–Inducible Gene Reveals Two Independent ABA-Responsive Complexes Each Containing a G-Box and a Novel *cis*-Acting Element, 295–307
Hydrogen peroxide
G. Wu, B. J. Shortt, E. B. Lawrence, E. B. Levine, K. C. Fitzsimmons, and D. M. Shah: Disease Resistance Conferred by Expression of a Gene Encoding H_2O_2-Generating Glucose Oxidase in Transgenic Potato Plants, 1357–1368

3β-Hydroxylase
R. Chasan: GA Biosynthesis: A Glimpse at the Genes (In This Issue), 141–143
H.-H. Chiang, I. Hwang, and H. M. Goodman: Isolation of the Arabidopsis *GA4* Locus, 195–201
3-Hydroxy-3-methylglutaryl coenzyme A reductase
N. Campos and A. Boronat: Targeting and Topology in the Membrane of Plant 3-Hydroxy-3-Methylglutaryl Coenzyme A Reductase, 2163–2174
M. Enjuto, V. Lumbreras, C. Marín, and A. Boronat: Expression of the Arabidopsis *HMG2* Gene, Encoding 3-Hydroxy-3-Methylglutaryl Coenzyme A Reductase, Is Restricted to Meristematic and Floral Tissues, 517–527
Hypersensitive response
R. Mittler and E. Lam: Identification, Characterization, and Purification of a Tobacco Endonuclease Activity Induced upon Hypersensitive Response Cell Death, 1951–1962
R. Mittler, V. Shulaev, and E. Lam: Coordinated Activation of Programmed Cell Death and Defense Mechanisms in Transgenic Tobacco Plants Expressing a Bacterial Proton Pump, 29–42
Hypocotyls
W.-M. Leu, X.-L. Cao, T. J. Wilson, D. P. Snustad, and N.-H. Chua: Phytochrome A and Phytochrome B Mediate the Hypocotyl-Specific Downregulation of *TUB1* by Light in Arabidopsis, 2187–2196
S. Thomine, S. Zimmermann, J. Guern, and H. Barbier-Brygoo: ATP-Dependent Regulation of an Anion Channel at the Plasma Membrane of Protoplasts from Epidermal Cells of Arabidopsis Hypocotyls, 2091–2100

I

Indole-3-acetic acid
W. Boerjan, M.-T. Cervera, M. Delarue, T. Beeckman, W. Dewitte, C. Bellini, M. Caboche, H. Van Onckelen, M. Van Montagu, and D. Inzé: *superroot*, a Recessive Mutation in Arabidopsis, Confers Auxin Overproduction, 1405–1419
Initiation codon mutants
X. Chen, K. L. Kindle, and D. B. Stern: The Initiation Codon Determines the Efficiency but Not the Site of Translation Initiation in *Chlamydomonas* Chloroplasts, 1295–1305
Inositol monophosphatase
G. E. Gillaspy, J. S. Keddie, K. Oda, and W. Gruissem: Plant Inositol Monophosphatase Is a Lithium-Sensitive Enzyme Encoded by a Multigene Family, 2175–2185
Inositol 1-monophosphatase
R. Chasan: Signaling a Role for Phospholipid-Derived Compounds in Plants, 1971–1974
Inositol 1,4,5-trisphosphate
D. L. Jones and L. V. Kochian: Aluminum Inhibition of the Inositol 1,4,5-Trisphosphate Signal Transduction Pathway in Wheat Roots: A Role in Aluminum Toxicity?, 1913–1922
Invertase
J. Lerchl, P. Geigenberger, M. Stitt, and U. Sonnewald: Impaired Photoassimilate Partitioning Caused by Phloem-Specific Removal of Pyrophosphate Can Be Complemented by a Phloem-Specific Cytosolic Yeast-Derived Invertase in Transgenic Plants, 259–270
H. Weber, L. Borisjuk, U. Heim, P. Buchner, and U. Wobus: Seed Coat–Associated Invertases of Fava Bean Control Both Unloading and Storage Functions: Cloning of cDNAs and Cell Type–Specific Expression, 1835–1846
Ion channels
J. M. Ward, Z.-M. Pei, and J. I. Schroeder: Roles of Ion Channels in Initiation of Signal Transduction in Higher Plants, 833–844
Isoleucine
B. K. Singh and D. L. Shaner: Biosynthesis of Branched Chain Amino Acids: From Test Tube to Field, 935–944
Isoprenoid biosynthesis
N. Campos and A. Boronat: Targeting and Topology in the Membrane of Plant 3-Hydroxy-3-Methylglutaryl Coenzyme A Reductase, 2163–2174
M. Enjuto, V. Lumbreras, C. Marín, and A. Boronat: Expression of the Arabidopsis *HMG2* Gene, Encoding 3-Hydroxy-3-Methylglutaryl Coenzyme A Reductase, Is Restricted to Meristematic and Floral Tissues, 517–527
Isoprenoid pathway
D. J. McGarvey and R. Croteau: Terpenoid Metabolism, 1015–1026

J

Jasmonic acid
T. W. Bunker, D. S. Koetje, L. C. Stephenson, R. A. Creelman, J. E. Mullet, and H. D. Grimes: Sink Limitation Induces the Expression of Multiple Soybean Vegetative Lipoxygenase mRNAs while the Endogenous Jasmonic Acid Level Remains Low, 1319–1331
K. Harms, R. Atzorn, A. Brash, H. Kühn, C. Wasternack, L. Willmitzer, and H. Peña-Cortés: Expression of a Flax Allene Oxide Synthase cDNA Leads to Increased Endogenous Jasmonic Acid (JA) Levels in Transgenic Potato Plants but Not to a Corresponding Activation of JA-Responding Genes, 1645–1654

K

Karyogamy
J. S. Carmichael and W. E. Friedman: Double Fertilization in *Gnetum gnemon*: The Relationship between the Cell Cycle and Sexual Reproduction, 1975–1988
Kex2p
H. Kinal, C.-M. Park, J. O. Berry, Y. Koltin, and J. A. Bruenn: Processing and Secretion of a Virally Encoded Antifungal Toxin in Transgenic Tobacco Plants: Evidence for a Kex2p Pathway in Plants, 677–688
KP6 killer toxin
H. Kinal, C.-M. Park, J. O. Berry, Y. Koltin, and J. A. Bruenn: Processing and Secretion of a Virally Encoded Antifungal Toxin in Transgenic Tobacco Plants: Evidence for a Kex2p Pathway in Plants, 677–688

L

***L6* gene**
G. J. Lawrence, E. J. Finnegan, M. A. Ayliffe, and J. G. Ellis: The *L6* Gene for Flax Rust Resistance Is Related to the Arabidopsis Bacterial Resistance Gene *RPS2* and the Tobacco Viral Resistance Gene *N*, 1195–1206
Late anther tomato genes
C. Eady, K. Lindsey, and D. Twell: The Significance of Microspore Division and Division Symmetry for Vegetative Cell–Specific Transcription and Generative Cell Differentiation, 65–74
Y. Eyal, C. Curie, and S. McCormick: Pollen Specificity Elements Reside in 30 bp of the Proximal Promoters of Two Pollen-Expressed Genes, 373–384
Lateral root primordium 1 gene
D. L. Smith and N. V. Fedoroff: *LRP1*, a Gene Expressed in Lateral and Adventitious Root Primordia of Arabidopsis, 735–745
Leaf development
T. Aoyama, C.-H. Dong, Y. Wu, M. Carabelli, G. Sessa, I. Ruberti, G. Morelli, and N.-H. Chua: Ectopic Expression of the Arabidopsis Transcriptional Activator Athb-1 Alters Leaf Cell Fate in Tobacco, 1773–1785
LEAFY
A. J. Kelly, M. B. Bonnlander, and D. R. Meeks-Wagner: *NFL*, the Tobacco Homolog of *FLORICAULA* and *LEAFY*, Is Transcriptionally Expressed in Both Vegetative and Floral Meristems, 225–234
Lemna gibba
J. L. Peters and J. Silverthorne: Organ-Specific Stability of Two *Lemna rbcS* mRNAs Is Determined Primarily in the Nuclear Compartment, 131–140
***lesion simulating disease* mutants**
K. Weymann, M. Hunt, S. Uknes, U. Neuenschwander, K. Lawton, H.-Y. Steiner, and J. Ryals: Suppression and Restoration of Lesion Formation in Arabidopsis *lsd* Mutants, 2013–2022
Leucine
B. K. Singh and D. L. Shaner: Biosynthesis of Branched Chain Amino Acids: From Test Tube to Field, 935–944
Light-harvesting chlorophyll *a/b* proteins
F. G. Plumley and G. W. Schmidt: Light-Harvesting Chlorophyll *a/b* Complexes: Interdependent Pigment Synthesis and Protein Assembly, 689–704

Light-induced greening
T. W. McNellis and X.-W. Deng: Light Control of Seedling Morphogenetic Pattern, 1749–1761
S. Reinbothe, C. Reinbothe, H. Holtorf, and K. Apel: Two NADPH:Protochlorophyllide Oxidoreductases in Barley: Evidence for the Selective Disappearance of PORA during the Light-Induced Greening of Etiolated Seedlings, 1933–1940
Lignin biosynthesis
F. Vignols, J. Rigau, M. A. Torres, M. Capellades, and P. Puigdomènech: The *brown midrib3* (*bm3*) Mutation in Maize Occurs in the Gene Encoding Caffeic Acid *O*-Methyltransferase, 407–416
R. Whetten and R. Sederoff: Lignin Biosynthesis, 1001–1013
Lipid biosynthesis
J. Ohlrogge and J. Browse: Lipid Biosynthesis, 957–970
Lipoxygenase gene
T. W. Bunker, D. S. Koetje, L. C. Stephenson, R. A. Creelman, J. E. Mullet, and H. D. Grimes: Sink Limitation Induces the Expression of Multiple Soybean Vegetative Lipoxygenase mRNAs while the Endogenous Jasmonic Acid Level Remains Low, 1319–1331
Lithium
G. E. Gillaspy, J. S. Keddie, K. Oda, and W. Gruissem: Plant Inositol Monophosphatase Is a Lithium-Sensitive Enzyme Encoded by a Multigene Family, 2175–2185
Long-distance movement factor
S. Cronin, J. Verchot, R. Haldeman-Cahill, M. C. Schaad, and J. C. Carrington: Long-Distance Movement Factor: A Transport Function of the Potyvirus Helper Component Proteinase, 549–559
Lotus corniculatus
K. Jacobsen-Lyon, E. Østergaard Jensen, J.-E. Jørgensen, K. A. Marcker, W. J. Peacock, and E. S. Dennis: Symbiotic and Nonsymbiotic Hemoglobin Genes of *Casuarina glauca*, 213–223
Luciferase reporter gene
I. A. Carré and S. A. Kay: Multiple DNA–Protein Complexes at a Circadian-Regulated Promoter Element, 2039–2051
Lysine
H. Karchi, D. Miron, S. Ben-Yaacov, and G. Galili: The Lysine-Dependent Stimulation of Lysine Catabolism in Tobacco Seed Requires Calcium and Protein Phosphorylation, 1963–1970
Lysine synthesis
G. Galili: Regulation of Lysine and Threonine Synthesis, 899–906

M

MADS box genes
C. Ainsworth, S. Crossley, V. Buchanan-Wollaston, M. Thangavelu, and J. Parker: Male and Female Flowers of the Dioecious Plant Sorrel Show Different Patterns of MADS Box Gene Expression, 1583–1598
G. C. Angenent, J. Franken, M. Busscher, A. van Dijken, J. L. van Went, H. J. M. Dons, and A. J. van Tunen: A Novel Class of MADS Box Genes Is Involved in Ovule Development in Petunia, 1569–1582
L. Colombo, J. Franken, E. Koetje, J. van Went, H. J. M. Dons, G. C. Angenent, and A. J. van Tunen: The Petunia MADS Box Gene *FBP11* Determines Ovule Identity, 1859–1868
G. R. Heck, S. E. Perry, K. W. Nichols, and D. E. Fernandez: AGL15, a MADS Domain Protein Expressed in Developing Embryos, 1271–1282
M. A. Mandel and M. F. Yanofsky: The Arabidopsis *AGL8* MADS Box Gene Is Expressed in Inflorescence Meristems and Is Negatively Regulated by *APETALA1*, 1763–1771
S. D. Rounsley, G. S. Ditta, and M. F. Yanofsky: Diverse Roles for MADS Box Genes in Arabidopsis Development, 1259–1269
B. Savidge, S. D. Rounsley, and M. F. Yanofsky: Temporal Relationship between the Transcription of Two Arabidopsis MADS Box Genes and the Floral Organ Identity Genes, 721–733
Magnaporthe grisea
T. K. Mitchell and R. A. Dean: The cAMP-Dependent Protein Kinase Catalytic Subunit Is Required for Appressorium Formation and Pathogenesis by the Rice Blast Pathogen *Magnaporthe grisea*, 1869–1878
Maize
Z. Avramova, P. SanMiguel, E. Georgieva, and J. L. Bennetzen: Matrix Attachment Regions and Transcribed Sequences within a Long Chromosomal Continuum Containing Maize *Adh1*, 1667–1680
R. J. Bensen, G. S. Johal, V. C. Crane, J. T. Tossberg, P. S. Schnable, R. B. Meeley, and S. P. Briggs: Cloning and Characterization of the Maize *An1* Gene, 75–84
G. Brosch, R. Ransom, T. Lechner, J. D. Walton, and P. Loidl: Inhibition of Maize Histone Deacetylases by HC Toxin, the Host-Selective Toxin of *Cochliobolus carbonum*, 1941–1950
L. Das and R. Martienssen: Site-Selected Transposon Mutagenesis at the *hcf106* Locus in Maize, 287–294
J. J. English, K. Harrison, and J. D. G. Jones: Aberrant Transpositions of Maize Double *Ds*-Like Elements Usually Involve *Ds* Ends on Sister Chromatids, 1235–1247
G. Hueros, S. Varotto, F. Salamini, and R. D. Thompson: Molecular Characterization of *BET1*, a Gene Expressed in the Endosperm Transfer Cells of Maize, 747–757
J. D. Hugdahl, C. L. Bokros, and L. C. Morejohn: End-to-End Annealing of Plant Microtubules by the p86 Subunit of Eukaryotic Initiation Factor–(iso)4F, 2129–2138
D. W. James, Jr., E. Lim, J. Keller, I. Plooy, E. Ralston, and H. K. Dooner: Directed Tagging of the Arabidopsis *FATTY ACID ELONGATION1* (*FAE1*) Gene with the Maize Transposon *Activator*, 309–319
M. G. James, D. S. Robertson, and A. M. Myers: Characterization of the Maize Gene *sugary1*, a Determinant of Starch Composition in Kernels, 417–429
A. L. Rubinstein, J. Márquez, M. Suárez-Cervera, and P. A. Bedinger: Extensin-like Glycoproteins in the Maize Pollen Tube Wall, 2211–2225
F. Vignols, J. Rigau, M. A. Torres, M. Capellades, and P. Puigdomènech: The *brown midrib3* (*bm3*) Mutation in Maize Occurs in the Gene Encoding Caffeic Acid *O*-Methyltransferase, 407–416
R. G. Winkler and T. Helentjaris: The Maize *Dwarf3* Gene Encodes a Cytochrome P450-Mediated Early Step in Gibberellin Biosynthesis, 1307–1317
X. Xu, A.-P. Hsia, L. Zhang, B. J. Nikolau, and P. S. Schnable: Meiotic Recombination Break Points Resolve at High Rates at the 5′ End of a Maize Coding Sequence, 2151–2161
Major intrinsic proteins
S. Yamada, M. Katsuhara, W. B. Kelly, C. B. Michalowski, and H. J. Bohnert: A Family of Transcripts Encoding Water Channel Proteins: Tissue-Specific Expression in the Common Ice Plant, 1129–1142
Male inflorescence development
M. J. Donlin, D. Lisch, and M. Freeling: Tissue-Specific Accumulation of MURB, a Protein Encoded by *MuDR*, the Autonomous Regulator of the *Mutator* Transposable Element Family, 1989–2000
Matrix-associated regions
L. Mlynárová, R. C. Jansen, A. J. Conner, W. J. Stiekema, and J.-P. Nap: The MAR-Mediated Reduction in Position Effect Can Be Uncoupled from Copy Number–Dependent Expression in Transgenic Plants, 599–609
Matrix attachment regions
Z. Avramova, P. SanMiguel, E. Georgieva, and J. L. Bennetzen: Matrix Attachment Regions and Transcribed Sequences within a Long Chromosomal Continuum Containing Maize *Adh1*, 1667–1680
Medicago truncatula
D. Cook, D. Dreyer, D. Bonnet, M. Howell, E. Nony, and K. VandenBosch: Transient Induction of a Peroxidase Gene in *Medicago truncatula* Precedes Infection by *Rhizobium meliloti*, 43–55
Medicinal plants
T. M. Kutchan: Alkaloid Biosynthesis—The Basis for Metabolic Engineering of Medicinal Plants, 1059–1070
Meristems
R. Carpenter, L. Copsey, C. Vincent, S. Doyle, R. Magrath, and E. Coen: Control of Flower Development and Phyllotaxy by Meristem Identity Genes in Antirrhinum, 2001–2011
H. Kouchi, M. Sekine, and S. Hata: Distinct Classes of Mitotic Cyclins Are Differentially Expressed in the Soybean Shoot Apex during the Cell Cycle, 1143–1155

M. A. Mandel and M. F. Yanofsky: The Arabidopsis *AGL8* MADS Box Gene Is Expressed in Inflorescence Meristems and Is Negatively Regulated by *APETALA1*, 1763–1771
M. D. Wilkinson and G. W. Haughn: *UNUSUAL FLORAL ORGANS* Controls Meristem Identity and Organ Primordia Fate in Arabidopsis, 1485–1499

Mesembryanthemum crystallinum
S. Yamada, M. Katsuhara, W. B. Kelly, C. B. Michalowski, and H. J. Bohnert: A Family of Transcripts Encoding Water Channel Proteins: Tissue-Specific Expression in the Common Ice Plant, 1129–1142

Mesophyll cells
H.-m. Li, K. Culligan, R. A. Dixon, and J. Chory: *CUE1*: A Mesophyll Cell-Specific Positive Regulator of Light-Controlled Gene Expression in Arabidopsis, 1599–1610

Microfibrils
D. P. Delmer and Y. Amor: Cellulose Biosynthesis, 987–1000

Microspore division
C. Eady, K. Lindsey, and D. Twell: The Significance of Microspore Division and Division Symmetry for Vegetative Cell–Specific Transcription and Generative Cell Differentiation, 65–74

Microtubules
J. D. Hugdahl, C. L. Bokros, and L. C. Morejohn: End-to-End Annealing of Plant Microtubules by the p86 Subunit of Eukaryotic Initiation Factor–(iso)4F, 2129–2138

Missense mutations
Y. Xu, B. M. Parks, T. W. Short, and P. H. Quail: Missense Mutations Define a Restricted Segment in the C-Terminal Domain of Phytochrome A Critical to Its Regulatory Activity, 1433–1443

Mitochondria
L. J. Goff and A. W. Coleman: Fate of Parasite and Host Organelle DNA during Cellular Transformation of Red Algae by Their Parasites, 1899–1911
J. N. Siedow and A. L. Umbach: Plant Mitochondrial Electron Transfer and Molecular Biology, 821–831

Mitochondrial sterility-associated protein
A. R. Abad, B. J. Mehrtens, and S. A. Mackenzie: Specific Expression in Reproductive Tissues and Fate of a Mitochondrial Sterility-Associated Protein in Cytoplasmic Male-Sterile Bean, 271–285

Mitotic regulation
S. M. Wolniak and P. M. Larsen: The Timing of Protein Kinase Activation Events in the Cascade That Regulates Mitotic Progression in *Tradescantia* Stamen Hair Cells, 431–445

Molecular chaperones
M. J. Chrispeels, P. J. Green, and J. B. Nasrallah: Plant Cell Biology Comes of Age (Meeting Report), 237–248

Monolignol biosynthesis
R. Whetten and R. Sederoff: Lignin Biosynthesis, 1001–1013

Movement proteins
S. Cronin, J. Verchot, R. Haldeman-Cahill, M. C. Schaad, and J. C. Carrington: Long-Distance Movement Factor: A Transport Function of the Potyvirus Helper Component Proteinase, 549–559
B. G. McLean, J. Zupan, and P. C. Zambryski: Tobacco Mosaic Virus Movement Protein Associates with the Cytoskeleton in Tobacco Cells, 2101–2114
A. A. Sanderfoot and S. G. Lazarowitz: Cooperation in Viral Movement: The Geminivirus BL1 Movement Protein Interacts with BR1 and Redirects It from the Nucleus to the Cell Periphery, 1185–1194
C. L. Thomas and A. J. Maule: Identification of Structural Domains within the Cauliflower Mosaic Virus Movement Protein by Scanning Deletion Mutagenesis and Epitope Tagging, 561–572
E. Waigmann and P. Zambryski: Tobacco Mosaic Virus Movement Protein–Mediated Protein Transport between Trichome Cells, 2069–2079

MURB
M. J. Donlin, D. Lisch, and M. Freeling: Tissue-Specific Accumulation of MURB, a Protein Encoded by *MuDR*, the Autonomous Regulator of the *Mutator* Transposable Element Family, 1989–2000

Mutator
M. J. Donlin, D. Lisch, and M. Freeling: Tissue-Specific Accumulation of MURB, a Protein Encoded by *MuDR*, the Autonomous Regulator of the *Mutator* Transposable Element Family, 1989–2000

***Mutator* elements**
R. J. Bensen, G. S. Johal, V. C. Crane, J. T. Tossberg, P. S. Schnable, R. B. Meeley, and S. P. Briggs: Cloning and Characterization of the Maize *An1* Gene, 75–84
L. Das and R. Martienssen: Site-Selected Transposon Mutagenesis at the *hcf106* Locus in Maize, 287–294

***myb* gene**
F. Gubler, R. Kalla, J. K. Roberts, and J. V. Jacobsen: Gibberellin-Regulated Expression of a *myb* Gene in Barley Aleurone Cells: Evidence for Myb Transactivation of a High-pI α-Amylase Gene Promoter, 1879–1891

N

NADPH-protochlorophyllide oxidoreductases
N. Lebedev, B. van Cleve, G. Armstrong, and K. Apel: Chlorophyll Synthesis in a Deetiolated (det340) Mutant of Arabidopsis without NADPH-Protochlorophyllide (PChlide) Oxidoreductase (POR) A and Photoactive PChlide-F655, 2081–2090
S. Reinbothe, C. Reinbothe, H. Holtorf, and K. Apel: Two NADPH:Protochlorophyllide Oxidoreductases in Barley: Evidence for the Selective Disappearance of PORA during the Light-Induced Greening of Etiolated Seedlings, 1933–1940
S. Reinbothe, S. Runge, C. Reinbothe, B. van Cleve, and K. Apel: Substrate-Dependent Transport of the NADPH:Protochlorophyllide Oxidoreductase into Isolated Plastids, 161–172

Neomycin phosphotransferase II gene
L. Mlynárová, R. C. Jansen, A. J. Conner, W. J. Stiekema, and J.-P. Nap: The MAR-Mediated Reduction in Position Effect Can Be Uncoupled from Copy Number–Dependent Expression in Transgenic Plants, 599–609

Nicotiana benthamiana
C. M. T. Rommens, J. M. Salmeron, G. E. D. Oldroyd, and B. J. Staskawicz: Intergeneric Transfer and Functional Expression of the Tomato Disease Resistance Gene *Ptc*, 1537–1544

Nicotiana clevelandii
E. Waigmann and P. Zambryski: Tobacco Mosaic Virus Movement Protein–Mediated Protein Transport between Trichome Cells, 2069–2079

***Nicotiana FLO/LFY* genes**
A. J. Kelly, M. B. Bonnlander, and D. R. Meeks-Wagner: *NFL*, the Tobacco Homolog of *FLORICAULA* and *LEAFY*, Is Transcriptionally Expressed in Both Vegetative and Floral Meristems, 225–234

Nicotiana plumbaginifolia
L. Nussaume, M. Vincentz, C. Meyer, J.-P. Boutin, and M. Caboche: Post-Transcriptional Regulation of Nitrate Reductase by Light Is Abolished by an N-Terminal Deletion, 611–621

***Nicotiana* spp**
H. B. Scholthof, K.-B. G. Scholthof, and A. O. Jackson: Identification of Tomato Bushy Stunt Virus Host-Specific Symptom Determinants by Expression of Individual Genes from a Potato Virus X Vector, 1157–1172

Nicotiana tabacum
A. A. Sanderfoot and S. G. Lazarowitz: Cooperation in Viral Movement: The Geminivirus BL1 Movement Protein Interacts with BR1 and Redirects It from the Nucleus to the Cell Periphery, 1185–1194

Nitrate
N. M. Crawford: Nitrate: Nutrient and Signal for Plant Growth, 859–868

Nitrate reductase
N. M. Crawford: Nitrate: Nutrient and Signal for Plant Growth, 859–868
L. Nussaume, M. Vincentz, C. Meyer, J.-P. Boutin, and M. Caboche: Post-Transcriptional Regulation of Nitrate Reductase by Light Is Abolished by an N-Terminal Deletion, 611–621

Nitrogen assimilation
N. M. Crawford: Nitrate: Nutrient and Signal for Plant Growth, 859–868
H.-M. Lam, K. Coschigano, C. Schultz, R. Melo-Oliveira, G. Tjaden, I. Oliveira, N. Ngai, M.-H. Hsieh, and G. Coruzzi: Use of Arabidopsis Mutants and Genes To Study Amide Amino Acid Biosynthesis, 887–898

Nitrogen fixation
P. Mylona, K. Pawlowski, and T. Bisseling: Symbiotic Nitrogen Fixation, 869–885
Nod factor
R. Chasan: ASPP Meeting: Germinating Ideas in Portland (Meeting Report), 144–148
Nodule development
P. Mylona, K. Pawlowski, and T. Bisseling: Symbiotic Nitrogen Fixation, 869–885
A. Ribeiro, A. D. L. Akkermans, A. van Kammen, T. Bisseling, and K. Pawlowski: A Nodule-Specific Gene Encoding a Subtilisin-Like Protease Is Expressed in Early Stages of Actinorhizal Nodule Development, 785–794
Nodule-specific genes
K. Jacobsen-Lyon, E. Østergaard Jensen, J.-E. Jørgensen, K. A. Marcker, W. J. Peacock, and E. S. Dennis: Symbiotic and Nonsymbiotic Hemoglobin Genes of *Casuarina glauca*, 213–223
Non-Mendelian inheritance
R. L. Phillips, M. A. Matzke, and K. Oono: Treasure Your Exceptions (Meeting Report), 1522–1527
Nonphototropic hypocotyl mutants
E. Liscum and W. R. Briggs: Mutations in the *NPH1* Locus of Arabidopsis Disrupt the Perception of Phototropic Stimuli, 473–485
Nopaline synthase gene
H. Fu, S. Y. Kim, and W. D. Park: High-Level Tuber Expression and Sucrose Inducibility of a Potato *Sus4* Sucrose Synthase Gene Require 5′ and 3′ Flanking Sequences and the Leader Intron, 1387–1394
H. Fu, S. Y. Kim, and W. D. Park: A Potato *Sus3* Sucrose Synthase Gene Contains a Context-Dependent 3′ Element and a Leader Intron with Both Positive and Negative Tissue-Specific Effects, 1395–1403
Nuclear factor PBF-1
R. Chasan: Eliciting Phosphorylation (In This Issue), 495–497
C. Després, R. Subramaniam, D. P. Matton, and N. Brisson: The Activation of the Potato *PR-10a* Gene Requires the Phosphorylation of the Nuclear Factor PBF-1, 589–598
Nuclear pore complex proteins
A. Heese-Peck, R. N. Cole, O. N. Borkhsenious, G. W. Hart, and N. V. Raikhel: Plant Nuclear Pore Complex Proteins Are Modified by Novel Oligosaccharides with Terminal *N*-Acetylglucosamine, 1459–1471
Nuclear targeting
M. J. Chrispeels, P. J. Green, and J. B. Nasrallah: Plant Cell Biology Comes of Age (Meeting Report), 237–248
Nucleosomes
M. A. Vega-Palas and R. J. Ferl: The Arabidopsis *Adh* Gene Exhibits Diverse Nucleosome Arrangements within a Small DNase I–Sensitive Domain, 1923–1932

O

***ocs* element binding factors**
B. Zhang, W. Chen, R. C. Foley, M. Büttner, and K. B. Singh: Interactions between Distinct Types of DNA Binding Proteins Enhance Binding to *ocs* Element Promoter Sequences, 2241–2252
Octopine synthase elements
B. Zhang, W. Chen, R. C. Foley, M. Büttner, and K. B. Singh: Interactions between Distinct Types of DNA Binding Proteins Enhance Binding to *ocs* Element Promoter Sequences, 2241–2252
Oligosaccharides
A. Heese-Peck, R. N. Cole, O. N. Borkhsenious, G. W. Hart, and N. V. Raikhel: Plant Nuclear Pore Complex Proteins Are Modified by Novel Oligosaccharides with Terminal *N*-Acetylglucosamine, 1459–1471
Open reading frame *orf184*
A. Wilde, H. Härtel, T. Hübschmann, P. Hoffmann, S. V. Shestakov, and T. Börner: Inactivation of a *Synechocystis* sp Strain PCC 6803 Gene with Homology to Conserved Chloroplast Open Reading Frame 184 Increases the Photosystem II–to–Photosystem I Ratio, 649–658
Opium poppy
P. J. Facchini and V. De Luca: Phloem-Specific Expression of Tyrosine/Dopa Decarboxylase Genes and the Biosynthesis of Isoquinoline Alkaloids in Opium Poppy, 1811–1821
Osmotic stress
C. D. Knight, A. Sehgal, K. Atwal, J. C. Wallace, D. J. Cove, D. Coates, R. S. Quatrano, S. Bahadur, P. G. Stockley, and A. C. Cuming: Molecular Responses to Abscisic Acid and Stress Are Conserved between Moss and Cereals, 499–506
Ovule development
G. C. Angenent, J. Franken, M. Busscher, A. van Dijken, J. L. van Went, H. J. M. Dons, and A. J. van Tunen: A Novel Class of MADS Box Genes Is Involved in Ovule Development in Petunia, 1569–1582
R. Chasan: Ovule Origins (In This Issue), 1735–1737
L. Colombo, J. Franken, E. Koetje, J. van Went, H. J. M. Dons, G. C. Angenent, and A. J. van Tunen: The Petunia MADS Box Gene *FBP11* Determines Ovule Identity, 1859–1868
J. C. Gaiser, K. Robinson-Beers, and C. S. Gasser: The Arabidopsis *SUPERMAN* Gene Mediates Asymmetric Growth of the Outer Integument of Ovules, 333–345
M. Hülskamp, K. Schneitz, and R. E. Pruitt: Genetic Evidence for a Long-Range Activity That Directs Pollen Tube Guidance in Arabidopsis, 57–64
Oxidase
J. N. Siedow and A. L. Umbach: Plant Mitochondrial Electron Transfer and Molecular Biology, 821–831

P

P1
C. L. Thomas and A. J. Maule: Identification of Structural Domains within the Cauliflower Mosaic Virus Movement Protein by Scanning Deletion Mutagenesis and Epitope Tagging, 561–572
p86
J. D. Hugdahl, C. L. Bokros, and L. C. Morejohn: End-to-End Annealing of Plant Microtubules by the p86 Subunit of Eukaryotic Initiation Factor–(iso)4F, 2129–2138
Paramutation
R. L. Phillips, M. A. Matzke, and K. Oono: Treasure Your Exceptions (Meeting Report), 1522–1527
Parasites
L. J. Goff and A. W. Coleman: Fate of Parasite and Host Organelle DNA during Cellular Transformation of Red Algae by Their Parasites, 1899–1911
Pathogenesis
C.-S. Hwang, M. A. Flaishman, and P. E. Kolattukudy: Cloning of a Gene Expressed during Appressorium Formation by *Colletotrichum gloeosporioides* and a Marked Decrease in Virulence by Disruption of This Gene, 183–193
T. K. Mitchell and R. A. Dean: The cAMP-Dependent Protein Kinase Catalytic Subunit Is Required for Appressorium Formation and Pathogenesis by the Rice Blast Pathogen *Magnaporthe grisea*, 1869–1878
Pathogenesis-related proteins
R. Green and R. Fluhr: UV-B–Induced PR-1 Accumulation Is Mediated by Active Oxygen Species, 203–212
Pathogenicity
R. Chasan: Victorin's Secret (In This Issue), 385–387
Peroxidase gene
D. Cook, D. Dreyer, D. Bonnet, M. Howell, E. Nony, and K. VandenBosch: Transient Induction of a Peroxidase Gene in *Medicago truncatula* Precedes Infection by *Rhizobium meliloti*, 43–55
***petA* gene**
X. Chen, K. L. Kindle, and D. B. Stern: The Initiation Codon Determines the Efficiency but Not the Site of Translation Initiation in *Chlamydomonas* Chloroplasts, 1295–1305
Petunia
G. C. Angenent, M. Busscher, J. Franken, H. J. M. Dons, and A. J. van Tunen: Functional Interaction between the Homeotic Genes *fbp1* and *pMADS1* during Petunia Floral Organogenesis, 507–516
G. C. Angenent, J. Franken, M. Busscher, A. van Dijken, J. L. van Went, H. J. M. Dons, and A. J. van Tunen: A Novel Class of MADS Box Genes Is Involved in Ovule Development in Petunia, 1569–1582
R. Chasan: Ovule Origins (In This Issue), 1735–1737
L. Colombo, J. Franken, E. Koetje, J. van Went, H. J. M. Dons, G. C. Angenent, and A. J. van Tunen: The Petunia MADS Box Gene *FBP11* Determines Ovule Identity, 1859–1868

T. A. Holton and E. C. Cornish: Genetics and Biochemistry of Anthocyanin Biosynthesis, 1071–1083

***Phaseolus vulgaris* sterility sequence**
A. R. Abad, B. J. Mehrtens, and S. A. Mackenzie: Specific Expression in Reproductive Tissues and Fate of a Mitochondrial Sterility-Associated Protein in Cytoplasmic Male-Sterile Bean, 271–285

Phenylalanine ammonia-lyase promoter
Q. Zhu, T. Dabi, and C. Lamb: TATA Box and Initiator Functions in the Accurate Transcription of a Plant Minimal Promoter in Vitro, 1681–1689

Phenylpropanoid metabolism
R. A. Dixon and N. L. Paiva: Stress-Induced Phenylpropanoid Metabolism, 1085–1097
K. Yao, V. De Luca, and N. Brisson: Creation of a Metabolic Sink for Tryptophan Alters the Phenylpropanoid Pathway and the Susceptibility of Potato to *Phytophthora infestans*, 1787–1799

Phloem
N. D. DeWitt and M. R. Sussman: Immunocytological Localization of an Epitope-Tagged Plasma Membrane Proton Pump (H^+-ATPase) in Phloem Companion Cells, 2053–2067

Phloem loading
J. Lerchl, P. Geigenberger, M. Stitt, and U. Sonnewald: Impaired Photoassimilate Partitioning Caused by Phloem-Specific Removal of Pyrophosphate Can Be Complemented by a Phloem-Specific Cytosolic Yeast-Derived Invertase in Transgenic Plants, 259–270
R. Stadler, J. Brandner, A. Schulz, M. Gahrtz, and N. Sauer: Phloem Loading by the PmSUC2 Sucrose Carrier from *Plantago major* Occurs into Companion Cells, 1545–1554

Phosphate translocator
J. S. Knight and J. C. Gray: The N-Terminal Hydrophobic Region of the Mature Phosphate Translocator Is Sufficient for Targeting to the Chloroplast Inner Envelope Membrane, 1421–1432

Phosphatidylglycerols
J. Wu and J. Browse: Elevated Levels of High-Melting-Point Phosphatidylglycerols Do Not Induce Chilling Sensitivity in an Arabidopsis Mutant, 17–27

Phosphatidylinositol signaling pathway
G. E. Gillaspy, J. S. Keddie, K. Oda, and W. Gruissem: Plant Inositol Monophosphatase Is a Lithium-Sensitive Enzyme Encoded by a Multigene Family, 2175–2185

Phospholipase C
D. L. Jones and L. V. Kochian: Aluminum Inhibition of the Inositol 1,4,5-Trisphosphate Signal Transduction Pathway in Wheat Roots: A Role in Aluminum Toxicity?, 1913–1922

Phospholipase D
R. Chasan: Signaling a Role for Phospholipid-Derived Compounds in Plants, 1971–1974
T. Munnik, S. A. Arisz, T. de Vrije, and A. Musgrave: G Protein Activation Stimulates Phospholipase D Signaling in Plants, 2197–2210

Phospholipids
R. Chasan: Signaling a Role for Phospholipid-Derived Compounds in Plants, 1971–1974

Phosphoprotein
E. Liscum and W. R. Briggs: Mutations in the *NPH1* Locus of Arabidopsis Disrupt the Perception of Phototropic Stimuli, 473–485

Phosphoribosylanthranilate isomerase
J. Li, J. Zhao, A. B. Rose, R. Schmidt, and R. L. Last: Arabidopsis Phosphoribosylanthranilate Isomerase: Molecular Genetic Analysis of Triplicate Tryptophan Pathway Genes, 447–461

Phosphorylation
R. Chasan: Eliciting Phosphorylation (In This Issue), 495–497
C. Després, R. Subramaniam, D. P. Matton, and N. Brisson: The Activation of the Potato *PR-10a* Gene Requires the Phosphorylation of the Nuclear Factor PBF-1, 589–598
L. J. Klimczak, M. A. Collinge, D. Farini, G. Giuliano, J. C. Walker, and A. R. Cashmore: Reconstitution of Arabidopsis Casein Kinase II from Recombinant Subunits and Phosphorylation of Transcription Factor GBF1, 105–115
K. Suzuki and H. Shinshi: Transient Activation and Tyrosine Phosphorylation of a Protein Kinase in Tobacco Cells Treated with a Fungal Elicitor, 639–647

Photomorphogenesis
T. W. McNellis and X.-W. Deng: Light Control of Seedling Morphogenetic Pattern, 1749–1761

Photoprotection
G. E. Bartley and P. A. Scolnik: Plant Carotenoids: Pigments for Photoprotection, Visual Attraction, and Human Health, 1027–1038
R. A. Dixon and N. L. Paiva: Stress-Induced Phenylpropanoid Metabolism, 1085–1097

Photoreceptors
T. W. McNellis and X-W. Deng: Light Control of Seedling Morphogenetic Pattern, 1749–1761

Photoregulation
L. Nussaume, M. Vincentz, C. Meyer, J.-P. Boutin, and M. Caboche: Post-Transcriptional Regulation of Nitrate Reductase by Light Is Abolished by an N-Terminal Deletion, 611–621

Photosynthesis
R. T. Furbank and W. C. Taylor: Regulation of Photosynthesis in C_3 and C_4 Plants: A Molecular Approach, 797–807
N. Libessart, M.-L. Maddelein, N. Van den Koornhuyse, A. Decq, B. Delrue, G. Mouille, C. D'Hulst, and S. Ball: Storage, Photosynthesis, and Growth: The Conditional Nature of Mutations Affecting Starch Synthesis and Structure in *Chlamydomonas*, 1117–1127

Photosystem I
A. Wilde, H. Härtel, T. Hübschmann, P. Hoffmann, S. V. Shestakov, and T. Börner: Inactivation of a *Synechocystis* sp Strain PCC 6803 Gene with Homology to Conserved Chloroplast Open Reading Frame 184 Increases the Photosystem II–to–Photosystem I Ratio, 649–658

Photosystem II
R. Flachmann and W. Kühlbrandt: Accumulation of Plant Antenna Complexes Is Regulated by Post-Transcriptional Mechanisms in Tobacco, 149–160
A. Wilde, H. Härtel, T. Hübschmann, P. Hoffmann, S. V. Shestakov, and T. Börner: Inactivation of a *Synechocystis* sp Strain PCC 6803 Gene with Homology to Conserved Chloroplast Open Reading Frame 184 Increases the Photosystem II–to–Photosystem I Ratio, 649–658

Phototropism
E. Liscum and W. R. Briggs: Mutations in the *NPH1* Locus of Arabidopsis Disrupt the Perception of Phototropic Stimuli, 473–485

Phyllotaxy
R. Carpenter, L. Copsey, C. Vincent, S. Doyle, R. Magrath, and E. Coen: Control of Flower Development and Phyllotaxy by Meristem Identity Genes in Antirrhinum, 2001–2011

Physarum polycephalum
G. Brosch, R. Ransom, T. Lechner, J. D. Walton, and P. Loidl: Inhibition of Maize Histone Deacetylases by HC Toxin, the Host-Selective Toxin of *Cochliobolus carbonum*, 1941–1950

Physcomitrella patens
C. D. Knight, A. Sehgal, K. Atwal, J. C. Wallace, D. J. Cove, D. Coates, R. S. Quatrano, S. Bahadur, P. G. Stockley, and A. C. Cuming: Molecular Responses to Abscisic Acid and Stress Are Conserved between Moss and Cereals, 499–506

Phytoalexins
R. A. Dixon and N. L. Paiva: Stress-Induced Phenylpropanoid Metabolism, 1085–1097

Phytochrome A
W.-M. Leu, X.-L. Cao, T. J. Wilson, D. P. Snustad, and N.-H. Chua: Phytochrome A and Phytochrome B Mediate the Hypocotyl-Specific Downregulation of *TUB1* by Light in Arabidopsis, 2187–2196
Y. Xu, B. M. Parks, T. W. Short, and P. H. Quail: Missense Mutations Define a Restricted Segment in the C-Terminal Domain of Phytochrome A Critical to Its Regulatory Activity, 1433–1443

Phytochrome B
W.-M. Leu, X.-L. Cao, T. J. Wilson, D. P. Snustad, and N.-H. Chua: Phytochrome A and Phytochrome B Mediate the Hypocotyl-Specific Downregulation of *TUB1* by Light in Arabidopsis, 2187–2196
Y. Xu, B. M. Parks, T. W. Short, and P. H. Quail: Missense Mutations Define a Restricted Segment in the C-Terminal Domain of Phytochrome A Critical to Its Regulatory Activity, 1433–1443

Phytochromes
R. Chasan: Arabidopsis in Madison: Genes and Phenotypes Spread like Weeds (Meeting Report), 1737–1748
***phytoene desaturation* mutants**
S. R. Norris, T. R. Barrette, and D. DellaPenna: Genetic Dissection of Carotenoid Synthesis in Arabidopsis Defines Plastoquinone as an Essential Component of Phytoene Desaturation, 2139–2149
Phytophthora infestans
C. Després, R. Subramaniam, D. P. Matton, and N. Brisson: The Activation of the Potato *PR-10a* Gene Requires the Phosphorylation of the Nuclear Factor PBF-1, 589–598
G. Wu, B. J. Shortt, E. B. Lawrence, E. B. Levine, K. C. Fitzsimmons, and D. M. Shah: Disease Resistance Conferred by Expression of a Gene Encoding H_2O_2-Generating Glucose Oxidase in Transgenic Potato Plants, 1357–1368
K. Yao, V. De Luca, and N. Brisson: Creation of a Metabolic Sink for Tryptophan Alters the Phenylpropanoid Pathway and the Susceptibility of Potato to *Phytophthora infestans*, 1787–1799
Pigment synthesis
F. G. Plumley and G. W. Schmidt: Light-Harvesting Chlorophyll *a/b* Complexes: Interdependent Pigment Synthesis and Protein Assembly, 689–704
Plant defensins
F. R. G. Terras, K. Eggermont, V. Kovaleva, N. V. Raikhel, R. W. Osborn, A. Kester, S. B. Rees, S. Torrekens, F. Van Leuven, J. Vanderleyden, B. P. A. Cammue, and W. F. Broekaert: Small Cysteine-Rich Antifungal Proteins from Radish: Their Role in Host Defense, 573–588
Plantago major
R. Stadler, J. Brandner, A. Schulz, M. Gahrtz, and N. Sauer: Phloem Loading by the PmSUC2 Sucrose Carrier from *Plantago major* Occurs into Companion Cells, 1545–1554
Plasma membrane
N. D. DeWitt and M. R. Sussman: Immunocytological Localization of an Epitope-Tagged Plasma Membrane Proton Pump (H^+-ATPase) in Phloem Companion Cells, 2053–2067
B. Regenberg, J. M. Villalba, F. C. Lanfermeijer, and M. G. Palmgren: C-Terminal Deletion Analysis of Plant Plasma Membrane H^+-ATPase: Yeast as a Model System for Solute Transport across the Plant Plasma Membrane, 1655–1666
Plasmodesmata
B. G. McLean, J. Zupan, and P. C. Zambryski: Tobacco Mosaic Virus Movement Protein Associates with the Cytoskeleton in Tobacco Cells, 2101–2114
E. Waigmann and P. Zambryski: Tobacco Mosaic Virus Movement Protein–Mediated Protein Transport between Trichome Cells, 2069–2079
Plastids
L. J. Goff and A. W. Coleman: Fate of Parasite and Host Organelle DNA during Cellular Transformation of Red Algae by Their Parasites, 1899–1911
C. Martin and A. M. Smith: Starch Biosynthesis, 971–985
J. Ohlrogge and J. Browse: Lipid Biosynthesis, 957–970
S. Reinbothe, S. Runge, C. Reinbothe, B. van Cleve, and K. Apel: Substrate-Dependent Transport of the NADPH:Protochlorophyllide Oxidoreductase into Isolated Plastids, 161–172
Plastoquinone
S. R. Norris, T. R. Barrette, and D. DellaPenna: Genetic Dissection of Carotenoid Synthesis in Arabidopsis Defines Plastoquinone as an Essential Component of Phytoene Desaturation, 2139–2149
Pleiotropy
F. B. Pickett and D. R. Meeks-Wagner: Seeing Double: Appreciating Genetic Redundancy, 1347–1356
***pMADS1* gene**
G. C. Angenent, M. Busscher, J. Franken, H. J. M. Dons, and A. J. van Tunen: Functional Interaction between the Homeotic Genes *fbp1* and *pMADS1* during Petunia Floral Organogenesis, 507–516
PmSUC2
R. Stadler, J. Brandner, A. Schulz, M. Gahrtz, and N. Sauer: Phloem Loading by the PmSUC2 Sucrose Carrier from *Plantago major* Occurs into Companion Cells, 1545–1554
Pollen development
M. J. Donlin, D. Lisch, and M. Freeling: Tissue-Specific Accumulation of MURB, a Protein Encoded by *MuDR*, the Autonomous Regulator of the *Mutator* Transposable Element Family, 1989–2000
Pollen fertility
M. G. M. Aarts, C. J. Keijzer, W. J. Stiekema, and A. Pereira: Molecular Characterization of the *CER1* Gene of Arabidopsis Involved in Epicuticular Wax Biosynthesis and Pollen Fertility, 2115–2127
Pollen mitosis I
C. Eady, K. Lindsey, and D. Twell: The Significance of Microspore Division and Division Symmetry for Vegetative Cell–Specific Transcription and Generative Cell Differentiation, 65–74
Pollen specificity elements
Y. Eyal, C. Curie, and S. McCormick: Pollen Specificity Elements Reside in 30 bp of the Proximal Promoters of Two Pollen-Expressed Genes, 373–384
Pollen tube growth
M. Hülskamp, K. Schneitz, and R. E. Pruitt: Genetic Evidence for a Long-Range Activity That Directs Pollen Tube Guidance in Arabidopsis, 57–64
R. Malhó, N. D. Read, A. J. Trewavas, and M. S. Pais: Calcium Channel Activity during Pollen Tube Growth and Reorientation, 1173–1184
A. L. Rubinstein, J. Márquez, M. Suárez-Cervera, and P. A. Bedinger: Extensin-like Glycoproteins in the Maize Pollen Tube Wall, 2211–2225
Potato
C. Després, R. Subramaniam, D. P. Matton, and N. Brisson: The Activation of the Potato *PR-10a* Gene Requires the Phosphorylation of the Nuclear Factor PBF-1, 589–598
H. Fu, S. Y. Kim, and W. D. Park: High-Level Tuber Expression and Sucrose Inducibility of a Potato *Sus4* Sucrose Synthase Gene Require 5′ and 3′ Flanking Sequences and the Leader Intron, 1387–1394
H. Fu, S. Y. Kim, and W. D. Park: A Potato *Sus3* Sucrose Synthase Gene Contains a Context-Dependent 3′ Element and a Leader Intron with Both Positive and Negative Tissue-Specific Effects, 1395–1403
H. Fu and W. D. Park: Sink- and Vascular-Associated Sucrose Synthase Functions Are Encoded by Different Gene Classes in Potato, 1369–1385
K. Harms, R. Atzorn, A. Brash, H. Kühn, C. Wasternack, L. Willmitzer, and H. Peña-Cortés: Expression of a Flax Allene Oxide Synthase cDNA Leads to Increased Endogenous Jasmonic Acid (JA) Levels in Transgenic Potato Plants but Not to a Corresponding Activation of JA-Responding Genes, 1645–1654
G. Wu, B. J. Shortt, E. B. Lawrence, E. B. Levine, K. C. Fitzsimmons, and D. M. Shah: Disease Resistance Conferred by Expression of a Gene Encoding H_2O_2-Generating Glucose Oxidase in Transgenic Potato Plants, 1357–1368
K. Yao, V. De Luca, and N. Brisson: Creation of a Metabolic Sink for Tryptophan Alters the Phenylpropanoid Pathway and the Susceptibility of Potato to *Phytophthora infestans*, 1787–1799
Potato virus X
C. M. T. Rommens, J. M. Salmeron, D. C. Baulcombe, and B. J. Staskawicz: Use of a Gene Expression System Based on Potato Virus X to Rapidly Identify and Characterize a Tomato *Pto* Homolog That Controls Fenthion Sensitivity, 249–257
H. B. Scholthof, K.-B. G. Scholthof, and A. O. Jackson: Identification of Tomato Bushy Stunt Virus Host-Specific Symptom Determinants by Expression of Individual Genes from a Potato Virus X Vector, 1157–1172
***PR-10a* gene**
C. Després, R. Subramaniam, D. P. Matton, and N. Brisson: The Activation of the Potato *PR-10a* Gene Requires the Phosphorylation of the Nuclear Factor PBF-1, 589–598
Programmed cell death
R. Mittler and E. Lam: Identification, Characterization, and Purification of a Tobacco Endonuclease Activity Induced upon Hypersensitive Response Cell Death, 1951–1962
R. Mittler, V. Shulaev, and E. Lam: Coordinated Activation of Programmed Cell Death and Defense Mechanisms in Transgenic Tobacco Plants Expressing a Bacterial Proton Pump, 29–42

Prolamins
P. R. Shewry, J. A. Napier, and A. S. Tatham: Seed Storage Proteins: Structures and Biosynthesis, 945–956
Proliferating cell nuclear antigen
S. Nagar, T. J. Pedersen, K. M. Carrick, L. Hanley-Bowdoin, and D. Robertson: A Geminivirus Induces Expression of a Host DNA Synthesis Protein in Terminally Differentiated Plant Cells, 705–719
Proplastids
L. J. Goff and A. W. Coleman: Fate of Parasite and Host Organelle DNA during Cellular Transformation of Red Algae by Their Parasites, 1899–1911
Proteases
J. Shanklin, N. D. DeWitt, and J. M. Flanagan: The Stroma of Higher Plant Plastids Contain ClpP and ClpC, Functional Homologs of *Escherichia coli* ClpP and ClpA: An Archetypal Two-Component ATP-Dependent Protease, 1713–1722
Protein degradation
J. Callis: Regulation of Protein Degradation, 845–857
Protein kinases
R. Chasan: Eliciting Phosphorylation (In This Issue), 495–497
T. K. Mitchell and R. A. Dean: The cAMP-Dependent Protein Kinase Catalytic Subunit Is Required for Appressorium Formation and Pathogenesis by the Rice Blast Pathogen *Magnaporthe grisea*, 1869–1878
K. Suzuki and H. Shinshi: Transient Activation and Tyrosine Phosphorylation of a Protein Kinase in Tobacco Cells Treated with a Fungal Elicitor, 639–647
S. M. Wolniak and P. M. Larsen: The Timing of Protein Kinase Activation Events in the Cascade That Regulates Mitotic Progression in *Tradescantia* Stamen Hair Cells, 431–445
Protein transport
S. Reinbothe, S. Runge, C. Reinbothe, B. van Cleve, and K. Apel: Substrate-Dependent Transport of the NADPH:Protochlorophyllide Oxidoreductase into Isolated Plastids, 161–172
Proteinase inhibitor II genes
K. Harms, R. Atzorn, A. Brash, H. Kühn, C. Wasternack, L. Willmitzer, and H. Peña-Cortés: Expression of a Flax Allene Oxide Synthase cDNA Leads to Increased Endogenous Jasmonic Acid (JA) Levels in Transgenic Potato Plants but Not to a Corresponding Activation of JA-Responding Genes, 1645–1654
Proteinases
J. Callis: Regulation of Protein Degradation, 845–857
Proton pump
R. Mittler, V. Shulaev, and E. Lam: Coordinated Activation of Programmed Cell Death and Defense Mechanisms in Transgenic Tobacco Plants Expressing a Bacterial Proton Pump, 29–42
***psbD* gene**
M. Kim and J. E. Mullet: Identification of a Sequence-Specific DNA Binding Factor Required for Transcription of the Barley Chloroplast Blue Light–Responsive *psbD-psbC* Promoter, 1445–1457
Pseudomonas syringae* pv *tabaci
C. M. T. Rommens, J. M. Salmeron, G. E. D. Oldroyd, and B. J. Staskawicz: Intergeneric Transfer and Functional Expression of the Tomato Disease Resistance Gene *Pto*, 1537–1544
R. L. Thilmony, Z. Chen, R. A. Bressan, and G. B. Martin: Expression of the Tomato *Pto* Gene in Tobacco Enhances Resistance to *Pseudomonas syringae* pv *tabaci* Expressing *avrPto*, 1529–1536
Pseudomonas syringae* pv *tomato
C. M. T. Rommens, J. M. Salmeron, G. E. D. Oldroyd, and B. J. Staskawicz: Intergeneric Transfer and Functional Expression of the Tomato Disease Resistance Gene *Pto*, 1537–1544
***Pto* gene**
C. M. T. Rommens, J. M. Salmeron, D. C. Baulcombe, and B. J. Staskawicz: Use of a Gene Expression System Based on Potato Virus X to Rapidly Identify and Characterize a Tomato *Pto* Homolog That Controls Fenthion Sensitivity, 249–257
C. M. T. Rommens, J. M. Salmeron, G. E. D. Oldroyd, and B. J. Staskawicz: Intergeneric Transfer and Functional Expression of the Tomato Disease Resistance Gene *Pto*, 1537–1544
R. L. Thilmony, Z. Chen, R. A. Bressan, and G. B. Martin: Expression of the Tomato *Pto* Gene in Tobacco Enhances Resistance to *Pseudomonas syringae* pv *tabaci* Expressing *avrPto*, 1529–1536
***PWL2* gene**
J. A. Sweigard, A. M. Carroll, S. Kang, L. Farrall, F. G. Chumley, and B. Valent: Identification, Cloning, and Characterization of *PWL2*, a Gene for Host Species Specificity in the Rice Blast Fungus, 1221–1233
Pyrophosphatase
J. Lerchl, P. Geigenberger, M. Stitt, and U. Sonnewald: Impaired Photoassimilate Partitioning Caused by Phloem-Specific Removal of Pyrophosphate Can Be Complemented by a Phloem-Specific Cytosolic Yeast-Derived Invertase in Transgenic Plants, 259–270

Q

Quinate metabolism
K. M. Herrmann: The Shikimate Pathway: Early Steps in the Biosynthesis of Aromatic Compounds, 907–919

R

Radish
F. R. G. Terras, K. Eggermont, V. Kovaleva, N. V. Raikhel, R. W. Osborn, A. Kester, S. B. Rees, S. Torrekens, F. Van Leuven, J. Vanderleyden, B. P. A. Cammue, and W. F. Broekaert: Small Cysteine-Rich Antifungal Proteins from Radish: Their Role in Host Defense, 573–588
Recombination
X. Xu, A.-P. Hsia, L. Zhang, B. J. Nikolau, and P. S. Schnable: Meiotic Recombination Break Points Resolve at High Rates at the 5′ End of a Maize Coding Sequence, 2151–2161
Red algae
L. J. Goff and A. W. Coleman: Fate of Parasite and Host Organelle DNA during Cellular Transformation of Red Algae by Their Parasites, 1899–1911
Resistance genes
G. J. Lawrence, E. J. Finnegan, M. A. Ayliffe, and J. G. Ellis: The *L6* Gene for Flax Rust Resistance is Related to the Arabidopsis Bacterial Resistance Gene *RPS2* and the Tobacco Viral Resistance Gene *N*, 1195–1206
H. B. Scholthof, K.-B. G. Scholthof, and A. O. Jackson: Identification of Tomato Bushy Stunt Virus Host-Specific Symptom Determinants by Expression of Individual Genes from a Potato Virus X Vector, 1157–1172
Respiration
J. N. Siedow and A. L. Umbach: Plant Mitochondrial Electron Transfer and Molecular Biology, 821–831
Reticuloplasmins
J. Denecke, L. E. Carlsson, S. Vidal, A.-S. Höglund, B. Ek, M. J. van Zeijl, K. M. C. Sinjorgo, and E. T. Palva: The Tobacco Homolog of Mammalian Calreticulin Is Present in Protein Complexes in Vivo, 391–406
Retinoblastoma protein
R. Soni, J. P. Carmichael, Z. H. Shah, and J. A. H. Murray: A Family of Cyclin D Homologs from Plants Differentially Controlled by Growth Regulators and Containing the Conserved Retinoblastoma Protein Interaction Motif, 85–103
Rhizobium meliloti
D. Cook, D. Dreyer, D. Bonnet, M. Howell, E. Nony, and K. VandenBosch: Transient Induction of a Peroxidase Gene in *Medicago truncatula* Precedes Infection by *Rhizobium meliloti*, 43–55
***Rhizobium*-induced peroxidase 1 protein**
D. Cook, D. Dreyer, D. Bonnet, M. Howell, E. Nony, and K. VandenBosch: Transient Induction of a Peroxidase Gene in *Medicago truncatula* Precedes Infection by *Rhizobium meliloti*, 43–55
Ribulose-1,5-bisphosphate carboxylase/oxygenase large subunit genes
S. Gutteridge and A. A. Gatenby: Rubisco Synthesis, Assembly, Mechanism, and Regulation, 809–819
Ribulose-1,5-bisphosphate carboxylase/oxygenase small subunit
J. S. Knight and J. C. Gray: The N-Terminal Hydrophobic Region of the Mature Phosphate Translocator Is Sufficient for Targeting to the Chloroplast Inner Envelope Membrane, 1421–1432
Ribulose-1,5-bisphosphate carboxylase/oxygenase small subunit genes
S. Gutteridge and A. A. Gatenby: Rubisco Synthesis, Assembly, Mechanism, and Regulation, 809–819

J. L. Peters and J. Silverthorne: Organ-Specific Stability of Two *Lemna rbcS* mRNAs Is Determined Primarily in the Nuclear Compartment, 131–140

Rice

T. K. Mitchell and R. A. Dean: The cAMP-Dependent Protein Kinase Catalytic Subunit Is Required for Appressorium Formation and Pathogenesis by the Rice Blast Pathogen *Magnaporthe grisea*, 1869–1878

Q. Zhu, T. Dabi, and C. Lamb: TATA Box and Initiator Functions in the Accurate Transcription of a Plant Minimal Promoter in Vitro, 1681–1689

Rice blast fungus

J. A. Sweigard, A. M. Carroll, S. Kang, L. Farrall, F. G. Chumley, and B. Valent: Identification, Cloning, and Characterization of *PWL2*, a Gene for Host Species Specificity in the Rice Blast Fungus, 1221–1233

Root development

J. J. King, D. P. Stimart, R. H. Fisher, and A. B. Bleecker: A Mutation Altering Auxin Homeostasis and Plant Morphology in Arabidopsis, 2023–2037

D. L. Smith and N. V. Fedoroff: *LRP1*, a Gene Expressed in Lateral and Adventitious Root Primordia of Arabidopsis, 735–745

Roots

D. L. Jones and L. V. Kochian: Aluminum Inhibition of the Inositol 1,4,5-Trisphosphate Signal Transduction Pathway in Wheat Roots: A Role in Aluminum Toxicity?, 1913–1922

rooty

J. J. King, D. P. Stimart, R. H. Fisher, and A. B. Bleecker: A Mutation Altering Auxin Homeostasis and Plant Morphology in Arabidopsis, 2023–2037

Rumex acetosa

C. Ainsworth, S. Crossley, V. Buchanan-Wollaston, M. Thangavelu, and J. Parker: Male and Female Flowers of the Dioecious Plant Sorrel Show Different Patterns of MADS Box Gene Expression, 1583–1598

Rust resistance

R. Chasan: Victorin's Secret (In This Issue), 385–387

G. J. Lawrence, E. J. Finnegan, M. A. Ayliffe, and J. G. Ellis: The *L6* Gene for Flax Rust Resistance is Related to the Arabidopsis Bacterial Resistance Gene *RPS2* and the Tobacco Viral Resistance Gene *N*, 1195–1206

Rye

A. V. Vershinin, T. Schwarzacher, and J. S. Heslop-Harrison: The Large-Scale Genomic Organization of Repetitive DNA Families at the Telomeres of Rye Chromosomes, 1823–1833

S

***S* locus anther gene**

D. C. Boyes and J. B. Nasrallah: An Anther-Specific Gene Encoded by an *S* Locus Haplotype of *Brassica* Produces Complementary and Differentially Regulated Transcripts, 1283–1294

Salicylic acid

R. Chasan: SA: Source or Signal for SAR? (In This Issue), 1519–1521

R. Green and R. Fluhr: UV-B–Induced PR-1 Accumulation Is Mediated by Active Oxygen Species, 203–212

V. Shulaev, J. León, and I. Raskin: Is Salicylic Acid a Translocated Signal of Systemic Acquired Resistance in Tobacco? 1691–1701

K. Weymann, M. Hunt, S. Uknes, U. Neuenschwander, K. Lawton, H.-Y. Steiner, and J. Ryals: Suppression and Restoration of Lesion Formation in Arabidopsis *lsd* Mutants, 2013–2022

Salt stress

H. J. Bohnert, D. E. Nelson, and R. G. Jensen: Adaptations to Environmental Stresses, 1099–1111

S. Yamada, M. Katsuhara, W. B. Kelly, C. B. Michalowski, and H. J. Bohnert: A Family of Transcripts Encoding Water Channel Proteins: Tissue-Specific Expression in the Common Ice Plant, 1129–1142

Satellite RNAs

Q. Kong, J.-W. Oh, and A. E. Simon: Symptom Attenuation by a Normally Virulent Satellite RNA of Turnip Crinkle Virus Is Associated with the Coat Protein Open Reading Frame, 1625–1634

Secretory pathway genes

M. Bar-Peled, A. da Silva Conceição, L. Frigerio, and N. V. Raikhel: Expression and Regulation of *aERD2*, a Gene Encoding the KDEL Receptor Homolog in Plants, and Other Genes Encoding Proteins Involved in ER–Golgi Vesicular Trafficking, 667–676

Seed coat

H. Weber, L. Borisjuk, U. Heim, P. Buchner, and U. Wobus: Seed Coat–Associated Invertases of Fava Bean Control Both Unloading and Storage Functions: Cloning of cDNAs and Cell Type–Specific Expression, 1835–1846

Seed development

G. Galili: Regulation of Lysine and Threonine Synthesis, 899–906

H. Weber, L. Borisjuk, U. Heim, P. Buchner, and U. Wobus: Seed Coat–Associated Invertases of Fava Bean Control Both Unloading and Storage Functions: Cloning of cDNAs and Cell Type–Specific Expression, 1835–1846

Seed storage proteins

P. R. Shewry, J. A. Napier, and A. S. Tatham: Seed Storage Proteins: Structures and Biosynthesis, 945–956

Seedling development

T. W. McNellis and X.-W. Deng: Light Control of Seedling Morphogenetic Pattern, 1749–1761

Self-compatibility

P. R. Bell: Incompatibility in Flowering Plants: Adaptation of an Ancient Response (Review Article), 5–16

Self-incompatibility

P. R. Bell: Incompatibility in Flowering Plants: Adaptation of an Ancient Response (Review Article), 5–16

P. R. Bell: Reply (Letters To The Editor), 664–665

S. M. Read, E. Newbigin, A. E. Clarke, B. A. McClure, and T.-h. Kao: Disputed Ancestry: Comments on a Model for the Origin of Incompatibility in Flowering Plants (Letters To The Editor), 661–664

Self-incompatibility locus

D. C. Boyes and J. B. Nasrallah: An Anther-Specific Gene Encoded by an *S* Locus Haplotype of *Brassica* Produces Complementary and Differentially Regulated Transcripts, 1283–1294

Sex determination

C. Ainsworth, S. Crossley, V. Buchanan-Wollaston, M. Thangavelu, and J. Parker: Male and Female Flowers of the Dioecious Plant Sorrel Show Different Patterns of MADS Box Gene Expression, 1583–1598

Sexual development

A. H. Banham, R. N. Asante-Owusu, B. Göttgens, S. A. J. Thompson, C. S. Kingsnorth, E. J. C. Mellor, and L. A. Casselton: An N-Terminal Dimerization Domain Permits Homeodomain Proteins To Choose Compatible Partners and Initiate Sexual Development in the Mushroom *Coprinus cinereus*, 773–783

Sexual reproduction

J. S. Carmichael and W. E. Friedman: Double Fertilization in *Gnetum gnemon*: The Relationship between the Cell Cycle and Sexual Reproduction, 1975–1988

Shikimate pathway

K. M. Herrmann: The Shikimate Pathway: Early Steps in the Biosynthesis of Aromatic Compounds, 907–919

K. Yao, V. De Luca, and N. Brisson: Creation of a Metabolic Sink for Tryptophan Alters the Phenylpropanoid Pathway and the Susceptibility of Potato to *Phytophthora infestans*, 1787–1799

Signal transduction

R. Chasan: Signaling a Role for Phospholipid-Derived Compounds in Plants, 1971–1974

M. J. Chrispeels, P. J. Green, and J. B. Nasrallah: Plant Cell Biology Comes of Age (Meeting Report), 237–248

D. L. Jones and L. V. Kochian: Aluminum Inhibition of the Inositol 1,4,5-Trisphosphate Signal Transduction Pathway in Wheat Roots: A Role in Aluminum Toxicity? 1913–1922

A. F. Monroy and R. S. Dhindsa: Low-Temperature Signal Transduction: Induction of Cold Acclimation–Specific Genes of Alfalfa by Calcium at 25°C, 321–331

T. Munnik, S. A. Arisz, T. de Vrije, and A. Musgrave: G Protein Activation Stimulates Phospholipase D Signaling in Plants, 2197–2210

J. M. Ward, Z.-M. Pei, and J. I. Schroeder: Roles of Ion Channels in Initiation of Signal Transduction in Higher Plants, 833–844

Signaling
R. Chasan: Internal Signals: Charting a Course through the Chloroplast (In This Issue), 1343–1345
Sink function
H. Fu and W. D. Park: Sink- and Vascular-Associated Sucrose Synthase Functions Are Encoded by Different Gene Classes in Potato, 1369–1385
Sink limitations
T. W. Bunker, D. S. Koetje, L. C. Stephenson, R. A. Creelman, J. E. Mullet, and H. D. Grimes: Sink Limitation Induces the Expression of Multiple Soybean Vegetative Lipoxygenase mRNAs while the Endogenous Jasmonic Acid Level Remains Low, 1319–1331
Slow vacuolar ion channel
G. J. Allen and D. Sanders: Calcineurin, a Type 2B Protein Phosphatase, Modulates the Ca^{2+}-Permeable Slow Vacuolar Ion Channel of Stomatal Guard Cells, 1473–1483
Soybean
T. W. Bunker, D. S. Koetje, L. C. Stephenson, R. A. Creelman, J. E. Mullet, and H. D. Grimes: Sink Limitation Induces the Expression of Multiple Soybean Vegetative Lipoxygenase mRNAs while the Endogenous Jasmonic Acid Level Remains Low, 1319–1331
H. Kouchi, M. Sekine, and S. Hata: Distinct Classes of Mitotic Cyclins Are Differentially Expressed in the Soybean Shoot Apex during the Cell Cycle, 1143–1155
T. Ulmasov, Z.-B. Liu, G. Hagen, and T. J. Guilfoyle: Composite Structure of Auxin Response Elements, 1611–1623
squamosa
R. Carpenter, L. Copsey, C. Vincent, S. Doyle, R. Magrath, and E. Coen: Control of Flower Development and Phyllotaxy by Meristem Identity Genes in Antirrhinum, 2001–2011
Squash leaf curl virus
A. A. Sanderfoot and S. G. Lazarowitz: Cooperation in Viral Movement: The Geminivirus BL1 Movement Protein Interacts with BR1 and Redirects It from the Nucleus to the Cell Periphery, 1185–1194
***STA4* gene**
N. Libessart, M.-L. Maddelein, N. Van den Koornhuyse, A. Decq, B. Delrue, G. Mouille, C. D'Hulst, and S. Ball: Storage, Photosynthesis, and Growth: The Conditional Nature of Mutations Affecting Starch Synthesis and Structure in *Chlamydomonas*, 1117–1127
Stamen hair cells
S. M. Wolniak and P. M. Larsen: The Timing of Protein Kinase Activation Events in the Cascade That Regulates Mitotic Progression in *Tradescantia* Stamen Hair Cells, 431–445
Starch accumulation
K. Eimert, S.-M. Wang, W.-I. Lue, and J. Chen: Monogenic Recessive Mutations Causing Both Late Floral Initiation and Excess Starch Accumulation in Arabidopsis, 1703–1712
Starch biosynthesis
M. G. James, D. S. Robertson, and A. M. Myers: Characterization of the Maize Gene *sugary1*, a Determinant of Starch Composition in Kernels, 417–429
N. Libessart, M.-L. Maddelein, N. Van den Koornhuyse, A. Decq, B. Delrue, G. Mouille, C. D'Hulst, and S. Ball: Storage, Photosynthesis, and Growth: The Conditional Nature of Mutations Affecting Starch Synthesis and Structure in *Chlamydomonas*, 1117–1127
C. Martin and A. M. Smith: Starch Biosynthesis, 971–985
START
R. Chasan: STARTing the Plant Cell Cycle (In This Issue), 1–4
R. Soni, J. P. Carmichael, Z. H. Shah, and J. A. H. Murray: A Family of Cyclin D Homologs from Plants Differentially Controlled by Growth Regulators and Containing the Conserved Retinoblastoma Protein Interaction Motif, 85–103
Stomata
R. Chasan: New Openings into Stomata (In This Issue), 1113–1115
M. R. McAinsh, A. A. R. Webb, J. E. Taylor, and A. M. Hetherington: Stimulus-Induced Oscillations in Guard Cell Cytosolic Free Calcium, 1207–1219
M. Yang and F. D. Sack: The *too many mouths* and *four lips* Mutations Affect Stomatal Production in Arabidopsis, 2227–2239
Stress induction
R. A. Dixon and N. L. Paiva: Stress-Induced Phenylpropanoid Metabolism, 1085–1097
Stress tolerance
H. J. Bohnert, D. E. Nelson, and R. G. Jensen: Adaptations to Environmental Stresses, 1099–1111
Subtilisin
A. Ribeiro, A. D. L. Akkermans, A. van Kammen, T. Bisseling, and K. Pawlowski: A Nodule-Specific Gene Encoding a Subtilisin-Like Protease Is Expressed in Early Stages of Actinorhizal Nodule Development, 785–794
Sucrose synthase genes
H. Fu, S. Y. Kim, and W. D. Park: High-Level Tuber Expression and Sucrose Inducibility of a Potato *Sus4* Sucrose Synthase Gene Require 5′ and 3′ Flanking Sequences and the Leader Intron, 1387–1394
H. Fu, S. Y. Kim, and W. D. Park: A Potato *Sus3* Sucrose Synthase Gene Contains a Context-Dependent 3′ Element and a Leader Intron with Both Positive and Negative Tissue-Specific Effects, 1395–1403
H. Fu and W. D. Park: Sink- and Vascular-Associated Sucrose Synthase Functions Are Encoded by Different Gene Classes in Potato, 1369–1385
Sucrose transport
J. Lerchl, P. Geigenberger, M. Stitt, and U. Sonnewald: Impaired Photoassimilate Partitioning Caused by Phloem-Specific Removal of Pyrophosphate Can Be Complemented by a Phloem-Specific Cytosolic Yeast-Derived Invertase in Transgenic Plants, 259–270
R. Stadler, J. Brandner, A. Schulz, M. Gahrtz, and N. Sauer: Phloem Loading by the PmSUC2 Sucrose Carrier from *Plantago major* Occurs into Companion Cells, 1545–1554
***sugary1* gene**
M. G. James, D. S. Robertson, and A. M. Myers: Characterization of the Maize Gene *sugary1*, a Determinant of Starch Composition in Kernels, 417–429
SUPERMAN
J. C. Gaiser, K. Robinson-Beers, and C. S. Gasser: The Arabidopsis *SUPERMAN* Gene Mediates Asymmetric Growth of the Outer Integument of Ovules, 333–345
superroot
W. Boerjan, M.-T. Cervera, M. Delarue, T. Beeckman, W. Dewitte, C. Bellini, M. Caboche, H. Van Onckelen, M. Van Montagu, and D. Inzé: *superroot*, a Recessive Mutation in Arabidopsis, Confers Auxin Overproduction, 1405–1419
Suppressor-mutator
M. G. M. Aarts, C. J. Keijzer, W. J. Stiekema, and A. Pereira: Molecular Characterization of the *CER1* Gene of Arabidopsis Involved in Epicuticular Wax Biosynthesis and Pollen Fertility, 2115–2127
Symbiosis
P. Mylona, K. Pawlowski, and T. Bisseling: Symbiotic Nitrogen Fixation, 869–885
Synechocystis
A. Wilde, H. Härtel, T. Hübschmann, P. Hoffmann, S. V. Shestakov, and T. Börner: Inactivation of a *Synechocystis* sp Strain PCC 6803 Gene with Homology to Conserved Chloroplast Open Reading Frame 184 Increases the Photosystem II–to–Photosystem I Ratio, 649–658
Systemic acquired resistance
R. Chasan: SA: Source or Signal for SAR? (In This Issue), 1519–1521
V. Shulaev, J. León, and I. Raskin: Is Salicylic Acid a Translocated Signal of Systemic Acquired Resistance in Tobacco? 1691–1701
K. Weymann, M. Hunt, S. Uknes, U. Neuenschwander, K. Lawton, H.-Y. Steiner, and J. Ryals: Suppression and Restoration of Lesion Formation in Arabidopsis *lsd* Mutants, 2013–2022

T

Targeting
R. Chasan: Internal Signals: Charting a Course through the Chloroplast (In This Issue), 1343–1345
J. S. Knight and J. C. Gray: The N-Terminal Hydrophobic Region of the Mature Phosphate Translocator Is Sufficient for Targeting to the Chloroplast Inner Envelope Membrane, 1421–1432

TCH4 gene
W. Xu, M. M. Purugganan, D. H. Polisensky, D. M. Antosiewicz, S. C. Fry, and J. Braam: Arabidopsis *TCH4*, Regulated by Hormones and the Environment, Encodes a Xyloglucan Endotransglycosylase, 1555–1567

Telomeres
A. V. Vershinin, T. Schwarzacher, and J. S. Heslop-Harrison: The Large-Scale Genomic Organization of Repetitive DNA Families at the Telomeres of Rye Chromosomes, 1823–1833

Terpenoid metabolism
D. J. McGarvey and R. Croteau: Terpenoid Metabolism, 1015–1026

Tetrahydroisoquinoline alkaloids
P. J. Facchini and V. De Luca: Phloem-Specific Expression of Tyrosine/Dopa Decarboxylase Genes and the Biosynthesis of Isoquinoline Alkaloids in Opium Poppy, 1811–1821

Thioesterases
R. Chasan: Engineering Fatty Acids—The Long and Short of It (In This Issue), 235–237
A. Jones, H. M. Davies, and T. A. Voelker: Palmitoyl–Acyl Carrier Protein (ACP) Thioesterase and the Evolutionary Origin of Plant Acyl-ACP Thioesterases, 359–371

Threonine synthesis
G. Galili: Regulation of Lysine and Threonine Synthesis, 899–906

Thylakoids
P. Dörmann, S. Hoffmann-Benning, I. Balbo, and C. Benning: Isolation and Characterization of an Arabidopsis Mutant Deficient in the Thylakoid Lipid Digalactosyl Diacylglycerol, 1801–1810

Tobacco
T. Aoyama, C.-H. Dong, Y. Wu, M. Carabelli, G. Sessa, I. Ruberti, G. Morelli, and N.-H. Chua: Ectopic Expression of the Arabidopsis Transcriptional Activator Athb-1 Alters Leaf Cell Fate in Tobacco, 1773–1785
R. Chasan: SA: Source or Signal for SAR? (In This Issue), 1519–1521
F. de Carvalho Niebel, P. Frendo, M. Van Montagu, and M. Cornelissen: Post-Transcriptional Cosuppression of β-1,3-Glucanase Genes Does Not Affect Accumulation of Transgene Nuclear mRNA, 347–358
J. Denecke, L. E. Carlsson, S. Vidal, A.-S. Höglund, B. Ek, M. J. van Zeijl, K. M. C. Sinjorgo, and E. T. Palva: The Tobacco Homolog of Mammalian Calreticulin Is Present in Protein Complexes in Vivo, 391–406
C. Eady, K. Lindsey, and D. Twell: The Significance of Microspore Division and Division Symmetry for Vegetative Cell–Specific Transcription and Generative Cell Differentiation, 65–74
J. J. English, K. Harrison, and J. D. G. Jones: Aberrant Transpositions of Maize Double *Ds*-Like Elements Usually Involve *Ds* Ends on Sister Chromatids, 1235–1247
R. Flachmann and W. Kühlbrandt: Accumulation of Plant Antenna Complexes Is Regulated by Post-Transcriptional Mechanisms in Tobacco, 149–160
H. Fu, S. Y. Kim, and W. D. Park: A Potato *Sus3* Sucrose Synthase Gene Contains a Context-Dependent 3′ Element and a Leader Intron with Both Positive and Negative Tissue-Specific Effects, 1395–1403
A. Heese-Peck, R. N. Cole, O. N. Borkhsenious, G. W. Hart, and N. V. Raikhel: Plant Nuclear Pore Complex Proteins Are Modified by Novel Oligosaccharides with Terminal *N*-Acetylglucosamine, 1459–1471
H. Karchi, D. Miron, S. Ben-Yaacov, and G. Galili: The Lysine-Dependent Stimulation of Lysine Catabolism in Tobacco Seed Requires Calcium and Protein Phosphorylation, 1963–1970
A. J. Kelly, M. B. Bonnlander, and D. R. Meeks-Wagner: *NFL*, the Tobacco Homolog of *FLORICAULA* and *LEAFY*, Is Transcriptionally Expressed in Both Vegetative and Floral Meristems, 225–234
H. Kinal, C.-M. Park, J. O. Berry, Y. Koltin, and J. A. Bruenn: Processing and Secretion of a Virally Encoded Antifungal Toxin in Transgenic Tobacco Plants: Evidence for a Kex2p Pathway in Plants, 677–688
B. G. McLean, J. Zupan, and P. C. Zambryski: Tobacco Mosaic Virus Movement Protein Associates with the Cytoskeleton in Tobacco Cells, 2101–2114
R. Mittler and E. Lam: Identification, Characterization, and Purification of a Tobacco Endonuclease Activity Induced upon Hypersensitive Response Cell Death, 1951–1962
R. Mittler, V. Shulaev, and E. Lam: Coordinated Activation of Programmed Cell Death and Defense Mechanisms in Transgenic Tobacco Plants Expressing a Bacterial Proton Pump, 29–42
Ľ. Mlynárová, R. C. Jansen, A. J. Conner, W. J. Stiekema, and J.-P. Nap: The MAR-Mediated Reduction in Position Effect Can Be Uncoupled from Copy Number–Dependent Expression in Transgenic Plants, 599–609
M. Ohme-Takagi and H. Shinshi: Ethylene-Inducible DNA Binding Proteins That Interact with an Ethylene-Responsive Element, 173–182
V. Shulaev, J. León, and I. Raskin: Is Salicylic Acid a Translocated Signal of Systemic Acquired Resistance in Tobacco? 1691–1701
K. Suzuki and H. Shinshi: Transient Activation and Tyrosine Phosphorylation of a Protein Kinase in Tobacco Cells Treated with a Fungal Elicitor, 639–647
R. L. Thilmony, Z. Chen, R. A. Bressan, and G. B. Martin: Expression of the Tomato *Pto* Gene in Tobacco Enhances Resistance to *Pseudomonas syringae* pv *tabaci* Expressing *avrPto*, 1529–1536

Tobacco etch virus
S. Cronin, J. Verchot, R. Haldeman-Cahill, M. C. Schaad, and J. C. Carrington: Long-Distance Movement Factor: A Transport Function of the Potyvirus Helper Component Proteinase, 549–559

Tobacco mosaic virus
R. Chasan: SA: Source or Signal for SAR? (In This Issue), 1519–1521
G. J. Lawrence, E. J. Finnegan, M. A. Ayliffe, and J. G. Ellis: The *L6* Gene for Flax Rust Resistance is Related to the Arabidopsis Bacterial Resistance Gene *RPS2* and the Tobacco Viral Resistance Gene *N*, 1195–1206
B. G. McLean, J. Zupan, and P. C. Zambryski: Tobacco Mosaic Virus Movement Protein Associates with the Cytoskeleton in Tobacco Cells, 2101–2114
V. Shulaev, J. León, and I. Raskin: Is Salicylic Acid a Translocated Signal of Systemic Acquired Resistance in Tobacco? 1691–1701
E. Waigmann and P. Zambryski: Tobacco Mosaic Virus Movement Protein–Mediated Protein Transport between Trichome Cells, 2069–2079

Tomato
Y. Eyal, C. Curie, and S. McCormick: Pollen Specificity Elements Reside in 30 bp of the Proximal Promoters of Two Pollen-Expressed Genes, 373–384
H. Fu and W. D. Park: Sink- and Vascular-Associated Sucrose Synthase Functions Are Encoded by Different Gene Classes in Potato, 1369–1385
G. E. Gillaspy, J. S. Keddie, K. Oda, and W. Gruissem: Plant Inositol Monophosphatase Is a Lithium-Sensitive Enzyme Encoded by a Multigene Family, 2175–2185
C. M. T. Rommens, J. M. Salmeron, D. C. Baulcombe, and B. J. Staskawicz: Use of a Gene Expression System Based on Potato Virus X to Rapidly Identify and Characterize a Tomato *Pto* Homolog That Controls Fenthion Sensitivity, 249–257
C. M. T. Rommens, J. M. Salmeron, G. E. D. Oldroyd, and B. J. Staskawicz: Intergeneric Transfer and Functional Expression of the Tomato Disease Resistance Gene *Pto*, 1537–1544
A. Schaller, D. R. Bergey, and C. A. Ryan: Induction of Wound Response Genes in Tomato Leaves by Bestatin, an Inhibitor of Aminopeptidases, 1893–1898
R. L. Thilmony, Z. Chen, R. A. Bressan, and G. B. Martin: Expression of the Tomato *Pto* Gene in Tobacco Enhances Resistance to *Pseudomonas syringae* pv *tabaci* Expressing *avrPto*, 1529–1536

Tomato bushy stunt virus
H. B. Scholthof, K.-B. G. Scholthof, and A. O. Jackson: Identification of Tomato Bushy Stunt Virus Host-Specific Symptom Determinants by Expression of Individual Genes from a Potato Virus X Vector, 1157–1172

Tomato golden mosaic virus
R. Chasan: Geminiviruses: A Twin Approach to Replication (In This Issue), 659–661
S. Nagar, T. J. Pedersen, K. M. Carrick, L. Hanley-Bowdoin, and D. Robertson: A Geminivirus Induces Expression of a Host DNA Synthesis Protein in Terminally Differentiated Plant Cells, 705–719
***too many mouths* mutant**
M. Yang and F. D. Sack: The *too many mouths* and *four lips* Mutations Affect Stomatal Production in Arabidopsis, 2227–2239
Tradescantia virginiana
S. M. Wolniak and P. M. Larsen: The Timing of Protein Kinase Activation Events in the Cascade That Regulates Mitotic Progression in *Tradescantia* Stamen Hair Cells, 431–445
Transcription factor GBF1
L. J. Klimczak, M. A. Collinge, D. Farini, G. Giuliano, J. C. Walker, and A. R. Cashmore: Reconstitution of Arabidopsis Casein Kinase II from Recombinant Subunits and Phosphorylation of Transcription Factor GBF1, 105–115
Transfer cells
G. Hueros, S. Varotto, F. Salamini, and R. D. Thompson: Molecular Characterization of *BET1*, a Gene Expressed in the Endosperm Transfer Cells of Maize, 747–757
Transposable elements
M. J. Donlin, D. Lisch, and M. Freeling: Tissue-Specific Accumulation of MURB, a Protein Encoded by *MuDR*, the Autonomous Regulator of the *Mutator* Transposable Element Family, 1989–2000
Transposon mutagenesis
L. Das and R. Martienssen: Site-Selected Transposon Mutagenesis at the *hcf106* Locus in Maize, 287–294
Trichome cells
E. Waigmann and P. Zambryski: Tobacco Mosaic Virus Movement Protein–Mediated Protein Transport between Trichome Cells, 2069–2079
$tRNA^{Trp}$ genes
B. Ulmasov and W. Folk: Analysis of the Role of 5′ and 3′ Flanking Sequence Elements upon in Vivo Expression of the Plant $tRNA^{Trp}$ genes, 1723–1734
Tryptophan
K. Yao, V. De Luca, and N. Brisson: Creation of a Metabolic Sink for Tryptophan Alters the Phenylpropanoid Pathway and the Susceptibility of Potato to *Phytophthora infestans*, 1787–1799
Tryptophan biosynthesis
J. Li, J. Zhao, A. B. Rose, R. Schmidt, and R. L. Last: Arabidopsis Phosphoribosylanthranilate Isomerase: Molecular Genetic Analysis of Triplicate Tryptophan Pathway Genes, 447–461
E. R. Radwanski and R. L. Last: Tryptophan Biosynthesis and Metabolism: Biochemical and Molecular Genetics, 921–934
Tubulin genes
W.-M. Leu, X.-L. Cao, T. J. Wilson, D. P. Snustad, and N.-H. Chua: Phytochrome A and Phytochrome B Mediate the Hypocotyl-Specific Downregulation of *TUB1* by Light in Arabidopsis, 2187–2196
Turnip crinkle virus
Q. Kong, J.-W. Oh, and A. E. Simon: Symptom Attenuation by a Normally Virulent Satellite RNA of Turnip Crinkle Virus Is Associated with the Coat Protein Open Reading Frame, 1625–1634
Tyrosine/dopa decarboxylase
P. J. Facchini and V. De Luca: Phloem-Specific Expression of Tyrosine/Dopa Decarboxylase Genes and the Biosynthesis of Isoquinoline Alkaloids in Opium Poppy, 1811–1821

U

Ultraviolet radiation
R. Green and R. Fluhr: UV-B–Induced PR-1 Accumulation Is Mediated by Active Oxygen Species, 203–212
***UNUSUAL FLORAL ORGANS* gene**
G. C. Ingram, J. Goodrich, M. D. Wilkinson, R. Simon, G. W. Haughn, and E. S. Coen: Parallels between *UNUSUAL FLORAL ORGANS* and *FIMBRIATA*, Genes Controlling Flower Development in Arabidopsis and Antirrhinum, 1501–1510
J. Z. Levin and E. M. Meyerowitz: *UFO*: An Arabidopsis Gene Involved in Both Floral Meristem and Floral Organ Development, 529–548
M. D. Wilkinson and G. W. Haughn: *UNUSUAL FLORAL ORGANS* Controls Meristem Identity and Organ Primordia Fate in Arabidopsis, 1485–1499
Ustilago maydis
H. Kinal, C.-M. Park, J. O. Berry, Y. Koltin, and J. A. Bruenn: Processing and Secretion of a Virally Encoded Antifungal Toxin in Transgenic Tobacco Plants: Evidence for a Kex2p Pathway in Plants, 677–688

V

Valine
B. K. Singh and D. L. Shaner: Biosynthesis of Branched Chain Amino Acids: From Test Tube to Field, 935–944
Vegetative meristems
A. J. Kelly, M. B. Bonnlander, and D. R. Meeks-Wagner: *NFL*, the Tobacco Homolog of *FLORICAULA* and *LEAFY*, Is Transcriptionally Expressed in Both Vegetative and Floral Meristems, 225–234
Vegetative storage proteins
T. W. Bunker, D. S. Koetje, L. C. Stephenson, R. A. Creelman, J. E. Mullet, and H. D. Grimes: Sink Limitation Induces the Expression of Multiple Soybean Vegetative Lipoxygenase mRNAs while the Endogenous Jasmonic Acid Level Remains Low, 1319–1331
Vesicular trafficking
M. Bar-Peled, A. da Silva Conceição, L. Frigerio, and N. V. Raikhel: Expression and Regulation of *aERD2*, a Gene Encoding the KDEL Receptor Homolog in Plants, and Other Genes Encoding Proteins Involved in ER–Golgi Vesicular Trafficking, 667–676
Victorin
R. Chasan: Victorin's Secret (In This Issue), 385–387
D. A. Navarre and T. J. Wolpert: Inhibition of the Glycine Decarboxylase Multienzyme Complex by the Host-Selective Toxin Victorin, 463–471
Viral movement
A. A. Sanderfoot and S. G. Lazarowitz: Cooperation in Viral Movement: The Geminivirus BL1 Movement Protein Interacts with BR1 and Redirects It from the Nucleus to the Cell Periphery, 1185–1194
Viral replication
R. Chasan: Geminiviruses: A Twin Approach to Replication (In This Issue), 659–661
Viviparous1
V. Vasil, W. R. Marcotte, Jr., L. Rosenkrans, S. M. Cocciolone, I. K. Vasil, R. S. Quatrano, and D. R. McCarty: Overlap of Viviparous1 (VP1) and Abscisic Acid Response Elements in the *Em* Promoter: G-Box Elements Are Sufficient but Not Necessary for VP1 Transactivation, 1511–1518

W

Water channel proteins
S. Yamada, M. Katsuhara, W. B. Kelly, C. B. Michalowski, and H. J. Bohnert: A Family of Transcripts Encoding Water Channel Proteins: Tissue-Specific Expression in the Common Ice Plant, 1129–1142
Wax biosynthesis
M. G. M. Aarts, C. J. Keijzer, W. J. Stiekema, and A. Pereira: Molecular Characterization of the *CER1* Gene of Arabidopsis Involved in Epicuticular Wax Biosynthesis and Pollen Fertility, 2115–2127
Weeping lovegrass
J. A. Sweigard, A. M. Carroll, S. Kang, L. Farrall, F. G. Chumley, and B. Valent: Identification, Cloning, and Characterization of *PWL2*, a Gene for Host Species Specificity in the Rice Blast Fungus, 1221–1233
Wheat
D. L. Jones and L. V. Kochian: Aluminum Inhibition of the Inositol 1,4,5-Trisphosphate Signal Transduction Pathway in Wheat Roots: A Role in Aluminum Toxicity? 1913–1922
C. D. Knight, A. Sehgal, K. Atwal, J. C. Wallace, D. J. Cove, D. Coates, R. S. Quatrano, S. Bahadur, P. G. Stockley, and A. C. Cuming: Molecular Responses to Abscisic Acid and Stress Are Conserved between Moss and Cereals, 499–506

V. Vasil, W. R. Marcotte, Jr., L. Rosenkrans, S. M. Cocciolone, I. K. Vasil, R. S. Quatrano, and D. R. McCarty: Overlap of Viviparous1 (VP1) and Abscisic Acid Response Elements in the *Em* Promoter: G-Box Elements Are Sufficient but Not Necessary for VP1 Transactivation, 1511–1518

Wheat germ agglutinin

A. Heese-Peck, R. N. Cole, O. N. Borkhsenious, G. W. Hart, and N. V. Raikhel: Plant Nuclear Pore Complex Proteins Are Modified by Novel Oligosaccharides with Terminal *N*-Acetylglucosamine, 1459–1471

X

Xyloglucan endotransglycosylase

W. Xu, M. M. Purugganan, D. H. Polisensky, D. M. Antosiewicz, S. C. Fry, and J. Braam: Arabidopsis *TCH4*, Regulated by Hormones and the Environment, Encodes a Xyloglucan Endotransglycosylase, 1555–1567

Y

Yeast

M. Dahl, I. Meskiene, L. Bögre, D. T. C. Ha, I. Swoboda, R. Hubmann, H. Hirt, and E. Heberle-Bors: The D-Type Alfalfa Cyclin Gene *cycMs4* Complements G_1 Cyclin–Deficient Yeast and Is Induced in the G_1 Phase of the Cell Cycle, 1847–1857

B. Regenberg, J. M. Villalba, F. C. Lanfermeijer, and M. G. Palmgren: C-Terminal Deletion Analysis of Plant Plasma Membrane H^+-ATPase: Yeast as a Model System for Solute Transport across the Plant Plasma Membrane, 1655–1666

Z

Zygote development

H. L. Mogensen and P. B. Holm: Dynamics of Nuclear DNA Quantities during Zygote Development in Barley, 487–494